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New Mint 1973 - 1977

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UNITED STATES OF AMERICA
GENERAL SERVICES ADMINISTRATION

Region 8

Denver Federal Center
Denver, Colorado 80225



June 12, 1974

RECEIVED

JUN 14 1974

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Mrs. Betty Higby, Superintendent
U. S. Mint
West Colfax Avenue and Cherokee
Denver, Colorado 80204

Dear Mrs. Higby:

As requested in Warren F. Brecht's letter of February 22, 1974, we have been successful in rescinding the May 24, 1973, South Platte Site Agreement. This action was mutually agreed to by the City of Denver and the Federal Government.

Enclosed for your information and file is the document entitled "Agreement for Mutual Recision of Agreement for Site of the New Mint of the United States of Denver, Colorado," dated April 29, 1974.

The \$1.5 million appropriated for site acquisition for the new Mint is now available for procurement of an alternate site.

We stand ready to expedite site acquisition subject to the 30 day publication period required by the Final Environmental Impact Statement.

Sincerely,

MICHAEL J. NORTON
Regional Administrator



W. H. McNICHOLS, JR.
Mayor

CITY AND COUNTY OF DENVER

DEPARTMENT OF LAW

MAX P. ZALL
CITY ATTORNEY

OFFICE OF CITY ATTORNEY
CITY AND COUNTY BUILDING
DENVER, COLORADO 80202
PHONE (303) 297-2661

June 5, 1974

John W. Hewins
Assistant Regional Counsel
General Services Administration
Region 8
Denver Federal Center
Denver, Colorado 80225

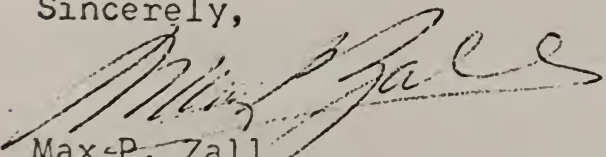
Re: Recision Agreement of Mint Site on South Platte River

Dear Mr. Hewins:

At long last I have received the fully executed agreement which you submitted and enclose herewith the original thereof.

The Mayor received a letter from Michael J. Norton, Regional Administrator, inquiring about this agreement and I would appreciate it if you would report to him promptly you have received the agreement properly executed.

Sincerely,


Max P. Zall
City Attorney

Enc.

CONSTRUCTION

6 12

DEC

1974 JUN 10

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AGREEMENT FOR MUTUAL RECISION OF AGREEMENT FOR SITE OF THE
NEW MINT OF THE UNITED STATES AT DENVER, COLORADO

WITNESSETH THAT:

I

WHEREAS, on the 24th day of May, 1973, an agreement was entered by and between the United States of America, acting through the Regional Administrator of General Services Administration, Michael J. Norton and the City and County of Denver, Colorado, a Municipal Corporation, acting through its Mayor, the Honorable William H. McNichols, Jr., for transfer by the City and County of Denver of a land package site comprising approximately 38 acres of land in the City and County of Denver, to be conveyed to the United States for use as a site for a new Mint of the United States at Denver, Colorado. A copy of the above referenced agreement is appended hereto and marked as Attachment 1, and is hereby incorporated by reference herein, and

II

WHEREAS, subsequent events beyond the knowledge and control of the parties hereto have made the acquisition of the land package known as the South Platte River Mint site described in the above and foregoing paragraph mutually unacceptable to the parties hereto, and

III

WHEREAS, it is in the best interest of the United States Government and the City and County of Denver to mutually rescind the agreement described in paragraph numbered I herein, and release one another from all obligations past, present, and future that have or were to be incurred under said agreement, described in paragraph numbered I above;

NOW, THEREFORE, each of the parties hereto for and in consideration of the aforesaid premises and of the mutual obligations described herein, hereby covenant and agree as follows:

1. THAT, the agreement entered the 24th day of May, 1973 by and between the United States of America acting through the Regional Administrator of General Services Administration, Michael J. Norton, and the City and County of Denver, Colorado, a Municipal Corporation, by its Mayor, the Honorable William H. McNichols, Jr., as incorporated by reference in paragraph numbered I herein, is hereby mutually rescinded by the parties hereto.

2. THAT, the parties hereto hereby and are released from all obligations past, present, and future that have or were to be incurred under said agreement described and incorporated by reference in paragraph numbered I herein.

WITNESS WHEREOF the City and County of Denver, Colorado has caused this agreement to be duly executed in its name and behalf and duly attested; and the United States has caused the same to be duly executed by General Services Administration on or as of this 29th day of April, 1974.

UNITED STATES OF AMERICA
Acting by and through the
Administrator of General Services

By

Michael J. Norton
Michael J. Norton

Regional Administrator, Region 8
General Services Administration

CITY AND COUNTY OF DENVER

By

Levon Nichols
Mayor

ATTEST:

F. J. SERAFINI, Clerk and Recorder,
Ex-Officio Clerk of the City and
County of Denver.

By

F. J. Serafini

By

Harold C. Cook
Manager of Public Works

APPROVED:

MAX P. ZALL, Attorney for the
City and County of Denver.

By

Max P. Zall
City Attorney

REGISTERED AND COUNTERSIGNED:

By

Charles D. Byrne
Auditor

Robert L. Hartman
Chief of Contracts



OFFICE OF
DIRECTOR OF THE MINT

THE DEPARTMENT OF THE TREASURY

WASHINGTON, D.C. 20220

Sept

MAY 17 1974

The Honorable
William McNichols
Mayor
City of Denver
Denver, Colorado

Dear Mayor McNichols:

As you well know, we are currently preparing a final environmental impact statement on alternative sites for the new mint at Denver, the sites being within the Clayton Trust Property (Park Hill) and the Denver Federal Center.

Obviously, one of the factors we will have to take into account in making a final site selection is the availability and cost of the property. If we were to select the Federal Center, the site for the new mint would be readily available to us without cost. If we were to select the Park Hill site, on the other hand, it is our understanding that the property would first have to be acquired by the City from the Clayton Trust, presumably at the prevailing market price. Since the funds made available to us by the Congress for the site acquisition are limited to \$1.5 million, it would be of great importance to us to receive a written assurance from you that, if the Park Hill site were selected, the City of Denver would be ready to convey the property to the U.S. Government at a reasonable market price but in no event more than \$1.5 million.

Furthermore, if the Park Hill site were to be selected, it would be necessary to connect the new mint to the Union Pacific rail lines by means of a spur track crossing Smith Road. While the cost of building the connecting line would be borne by the Mint, we want to be assured in advance that whatever authorizations or licenses are required for the construction of the spur track would be issued by the appropriate City or State authorities.

Your cooperation in this matter is very much appreciated.

Sincerely yours,

/s/

Mary Brooks
Director of the Mint

cc: Frank Rhea ✓
Elting Arnold
Pat Schrouder



Keep Freedom in Your Future With U.S. Savings Bonds

Dark Copy

March 26, 1974

Mrs. Mary Brooks
Director of the Mint
Department of the Treasury
Washington, D. C. 20220

Dear Mrs. Brooks:

Attached is a letter from Mr. Elmer L. Metcalfe of Denver in which he states his position on the upcoming selection of a new site for the Denver Mint.

Sincerely,

(Mrs.) Betty Higby
Superintendent

Encl. (1)

cc: Frank Rhea

2380 Ash

Denver, Colorado

March 22, 1974

Mrs. Mary Brooks
Director of U.S. Mint
Delaware and West Colfax
Denver, Colorado

Dear Mrs. Brooks,

Following a review of the environmental impact statement, a question and answer session with Mr. Frank Rhea, and discussions with Mr. John Henry, Mr. Jay Berger (Denver Planning Office) and Mr. Sam Reed (Denver Parks and Recreation) I prepared the attached statement supporting the Denver Federal Center as the logical choice for the new Mint site.

I have discussed the matter with many people, residents of park Hill and with others who are not. Unfortunately these people, who feel as I do, are unable to find proper media in which to express their views and may well be a "silent majority". It is clear that a great many pressures are being exerted to influence your decision. Most of them, I fear are politically motivated. Yet, an important decision such as this must be based upon all of the pertinent factors involved, as I am sure you

are aware.

The attached statement has been sent to the media, radio, TV and newspapers. It is an attempt on my part to express the opinion of the people I have talked to, and to present an analysis of the facts. I hope it will be useful to you in your deliberations and that the final decision will give proper weight to the environmental considerations and economic aspects as well as the sociological.

Sincerely,

Elmer L. Metcalfe

RECEIVED

MAR 26 1974

OFFICE OF
SUPERINTENDENT

FEDERAL CENTER SITE THE LOGICAL CHOICE

FOR NEW U.S. MINT

Proposed sites under consideration for the new U.S Mint have been reduced to two, either the Denver Federal Center or the Park Hill Golf Course.

The final decision to be made within the next 60 days will be based primarily upon the recommendation of Mrs. Mary Brooks, Director of the Mint in Denver.

The Federal Center site is the logical choice for many reasons:

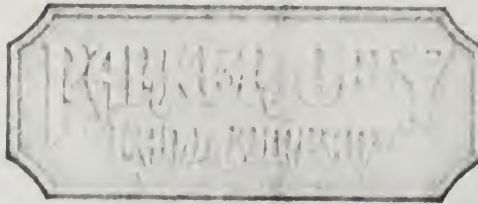
1. Comparatively less impact from air pollution, according to the environmental study. Air on the East side of Denver is already badly contaminated by industrial emission, odors from the stock yards and gas refineries due to prevailing air currents.
2. Highway network is adequate to handle the significant volume of vehicular traffic. West Alameda and West 6th Avenue will accomodate the traffic where as Colorado Boulevard and Smith Road will not.
3. The Federal Center site, with the Rocky Mountains as a back drop would be more attractive to tourists and create a more favorable impression than the Park Hill site which offers a heterogeneous surrounding area at best.
4. Comparative capital costs would be less, a savings of about \$2 1/2 million to the taxpayers:
 - Land at the Federal Center is already owned. At Park Hill, land would have to be purchased from the Clayton Trust at a cost of \$1.5 million or more.

- The heating plant at the Federal Center can serve the Mint. At Park Hill a new plant would be required.
 - Little, if any highway construction would be required at the Federal Center. Volume of traffic could involve major highway construction in Park Hill.
 - No golf course to revamp at the Federal Center.
5. Land use at the Federal Center would be in keeping with present surroundings. At Park Hill, land presently devoted to public recreation would be reduced since the planned expansion of the golf course to 27 holes would be cancelled out.
6. Lakewood residents and officials want the mint at the Federal Center.

The Mayor and Denver City Council have strongly favored the Park Hill site. So strongly, in fact, that a resolution was passed by city council on January 29, 1974 in favor of the Park Hill site. This action was taken almost one month before the environmental impact study was completed, February 27, 1974. Reasons given supporting the resolution refer to the intrinsic value of having the Mint in the city limits, and the sociological advantage of having 500 additional jobs by 1980 in the Park Hill area rather than Lakewood.

Logic favors the Federal Center. I am sure that Mrs. Brooks would like to know how the majority of people in the Denver Metropolitan area really feel about this important matter.

Elmer Metcalfe



RECEIVED

February 6th, 1974

FEB 7 - 1974

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Mrs. Betty Higby
Superintendent
U. S. Mint
320 W. Colfax
Denver, Colorado
80204

Dear Mrs. Higby:

Parker City Land Company wishes to make you aware of our offer to donate acreage for the new U. S. Mint.

Attached is a copy of our letter to Mr. Frank Rhea along with various literature regarding our project.

We would be pleased to have you as our guest to view our project in Parker. If your schedule will allow such a meeting please call my office to set up an appointment at your convenience.

Sincerely,

PARKER CITY LAND COMPANY

Thomas P. Scifo
Thomas P. Scifo
President

TPS:lmb
cc
enclosure



*REPORT TO THE SENATE
COMMITTEE ON BANKING, HOUSING,
AND URBAN AFFAIRS*

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

Alternatives To Constructing A New Denver Mint

Bureau of the Mint

The Bureau of the Mint asked the Congress for \$65 million to construct and equip a new U.S. Mint in Denver. The Bureau asked for this because demand for coins is continuing to increase and soon will exceed the coinmaking capacity of its mints.

The Bureau of the Mint has several options available to make better use of its facilities and consequently increase its coinmaking capacity. In light of the uncertainty associated with projecting coin requirements and possible changes in the present U.S. coinage system due to rising coin production and distribution costs, these options are, at this time, a better alternative to increase production than is the proposed expenditure for a new mint structure.



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-114877

The Honorable William Proxmire
Chairman, Committee on Banking, Housing,
and Urban Affairs
United States Senate

Dear Mr. Chairman:

This is in response to your Committee's March 2 and March 25, 1976, letters requesting that we review the need for a new Denver Mint, report on any options open to the Mint for meeting its production needs, and evaluate the reasonableness of the construction cost estimate prepared in connection with the proposed mint.

We invite your attention to the fact that this report contains recommendations to the Secretary of the Treasury which are set forth on page 38. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House and Senate Committees on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. We will be in touch with your office in the near future to arrange for release of the report so that requirements of section 236 can be set in motion.

At the request of your office, we solicited written comments on our report from Department of Treasury officials. Their comments have been incorporated in the report.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "James B. Peck", is written over the typed name.

Comptroller General
of the United States

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ABBREVIATIONS

GAO	General Accounting Office
GSA	General Services Administration
RTI	Research Triangle Institute

REPORT TO THE SENATE COMMITTEE
ON BANKING, HOUSING, AND
URBAN AFFAIRS
BY THE COMPTROLLER GENERAL

ALTERNATIVES TO CONSTRUCTING
A NEW DENVER MINT
Bureau of the Mint

D I G E S T

The Secretary of the Treasury is charged by the Congress with responsibility for making adequate numbers of coins to meet national needs. The Bureau of the Mint, established to manufacture coins, now has a planned coin-making capacity of about 18.1 billion coins a year in three production facilities. In fiscal year 1975 it produced about 13.1 billion coins to meet demands.

The Bureau is currently seeking congressional approval to expand current coinmaking capacity by building a new Denver Mint at a cost of \$65 million. The new mint is being justified on the basis that increasing demand for coins, estimated to reach 18 billion coins by 1980, will leave practically no margin for error in coin requirement forecasting and no reserve capacity to meet coin requirements beyond 1980. (See pp. 5 to 6.)

GAO found that the Bureau had four different models available for forecasting future coin requirements. Depending on the assumptions used in these models, 1990 coin requirements range from about 17 to 50 billion coins. These different projections were not made available to the Committee. (See pp. 6 to 9.)

A current Bureau study projects 1990 coin requirements to range from between 26 to 64 billion coins. The study projects the most likely estimate to be about 41.5 billion coins; of that total about 91 percent or 37.6 billion coins are cents. (See pp. 9 to 10.)

GAO believes that a previously developed Bureau coin-forecasting model, using updated information, offers a reasonable alternative to the current Bureau study's 1990 coin requirement projections. This alternative projection amounts to about 28.8 billion

coins. However, either projection is significantly higher than the Bureau's current coinmaking capacity. (See pp. 10 to 13.)

The Bureau study also suggests that in 1990 it may cost 10.25 cents to add one cent into circulation because of projected increases in demand for copper cents, cent-manufacturing and distribution costs, copper prices, and cent attrition rates. If these projections are reasonable, serious consideration should be given to making changes to the existing coinage system.

Changes presently being considered by the Bureau involving the cent are adding a 2-cent coin, changing from the copper cent to an aluminum cent, and even eliminating the cent coin. Any of these changes could dramatically affect the production needs and the suitability of the proposed new Denver Mint. (See pp. 13 to 17.)

The Bureau has several options available to better utilize the space and equipment presently contained in its facilities and consequently increase coinmaking capacity. Increases to achieve total production of over 50 billion coins a year can be made by such actions as (1) opening the San Francisco Assay Office to production of general circulation coinage, (2) combining functions and renovating space to make available more space for coinmaking equipment, and (3) relying on commercial suppliers for coinage metal, thus using metal production space for coin production. (See pp. 18 to 27.)

Further, the Bureau could use present capacity, now greater than demand, to stockpile cent coins for future use, thereby delaying or perhaps eliminating the need for major expansion of production capacities. (See pp. 27 to 28.)

GAO believes these facility changes are better alternatives to increasing production than is the proposed expenditure for a new mint structure. This is especially true since rising costs may bring about a change to the coinage system.

The present Denver Mint has been stated by mint officials and others to be outmoded and obsolete. However, GAO finds that while the facility appears to be overcrowded and perhaps hazardous to workers in its present state, it does not need to be replaced. The production area should be revised to improve the workflow and working conditions. This change could result in loss of some production capacity. (See pp. 29 to 32.)

GAO believes the Bureau's estimate of construction costs for a new Denver Mint may be too high because (1) space requirements appear overstated, (2) construction costs were based on Philadelphia Mint construction that included several high-cost features not needed for the Denver Mint, and (3) escalation for inflation appears duplicated. (See pp. 32 to 35.)

RECOMMENDATIONS

GAO recommends that the Secretary of the Treasury:

- Evaluate the various options presented in this report and, in conjunction with a continuing reevaluation of demand estimates, prepare a plan so that currently available facilities can keep pace with coin demand using the smallest possible investment in renovation, new equipment, and other costs. (See p. 38.)
- Develop contingency plans on actions to take if copper prices, manufacturing and distribution costs, and cent attrition rates rise significantly, including whether to issue a 2-cent coin, change the metal of the cent coin, or discontinue the cent coin. (See p. 38.)
- Examine the production system in the current Denver Mint and revise the capacity and workflow to get the best available production consistent with safe, healthy working conditions. (See p. 38.)

AGENCY COMMENTS AND UNRESOLVED ISSUES

The Department of the Treasury stated that a decision needs to be made regarding the future of the existing U.S. coinage system especially as it pertains to the cent.

The Department also stated that if the decision is made to eliminate the cent coin, a new Denver Mint is not required, and no further action will be taken by the Department on the new mint. However, if the decision is to continue cent production to 1985 and beyond, the Department intends to seek increased permanent cost-effective production capacity.

The Department also believes that the options GAO outlined to increase the Bureau of the Mint's coinmaking capacity need more examination and refinement, both as to the increased production they would actually yield, and the practicality and cost of implementation. The Bureau of the Mint has started this examination.

The Department believes that Congress should act favorably on the authorization request for the new mint while it considers the future of the U.S. coinage system and Bureau of the Mint examines the practicality and the cost of all the options available for increasing its current coinmaking capacity. The Department believes this would provide flexibility by allowing it to proceed with the project should that prove to be the most cost-effective solution. The Department states that Congress could still retain control over the project through the appropriation review process.

GAO believes that in light of the uncertainty associated with projecting coin requirements, the possible changes in the coinage system, the moderate increases in production capacity that can be implemented, and the possible increased reliance on contractors, a sizable capital expenditure at this time would be premature.

CHAPTER 1

INTRODUCTION

The Bureau of the Mint has asked the Congress for \$65 million to construct and equip a new U.S. Mint in Denver. The Bureau has asked for this new mint on the basis that coin demand is continuing to increase and will soon outstrip the production capability of its mints. The House of Representatives has approved the authorization. As the authorization request was being considered by the Senate Committee on Banking, Housing, and Urban Affairs, a controversy arose over the estimated construction cost of the new Denver Mint and GAO was asked to review the need for a mint and to report on any other options open to the Bureau for meeting its production needs.

MINT COINAGE ACTIVITIES

A primary mission of the the Bureau of the Mint is to produce United States coins to satisfy expected demand. Other activities relevant to production capability are the manufacture of uncirculated and proof coins for numismatic purposes, coins for foreign governments, and commemorative medals.

During the history of U.S. coinmaking, 19 different coins have been issued for circulation in denominations ranging from 1/2¢ to \$20. Various metals have been used, including gold and silver along with base metals and alloys. Gold coinage was stopped in 1933 and silver was mostly discontinued as a coin metal in 1966, except for some numismatic and 50-cent coins. Some regions of the Nation experienced a copper cent coin shortage in 1973-74 when rising copper prices threatened to make the intrinsic value higher than face value and penny hoarding resulted. At that time, the Department of the Treasury requested standby authority to change the metal content of the cent from copper to a new alloy. Before this authority was granted, copper prices retreated and the "crisis" disappeared.

The present profile of U.S. coinage includes six denominations of coins--1¢, 5¢, 10¢, 25¢, 50¢, and \$1--with all coins being made of base metal alloys of copper, nickel, and zinc, copper being the primary ingredient. Manufacture of these coins at the present time is primarily at mints in Philadelphia and Denver. The San Francisco Assay Office has made some coins in recent years, and the West Point Bullion Depository was pressed into coinmaking service in 1974.

Coin demand for all denominations has steadily increased over the years, although it exhibited some seasonal instability and decreases during periods of economic recessions. ^{1/} The most dramatic increase has been in cent coins. For example, from 1959 to 1975, annual cent production increased by 8.7 billion coins while all other denominations increased by only 2.9 billion coins. Total production increased from 1.6 billion to 13.1 billion during this period. Since 1959, when the current cent design was first made, 73.7 billion cents have been distributed.

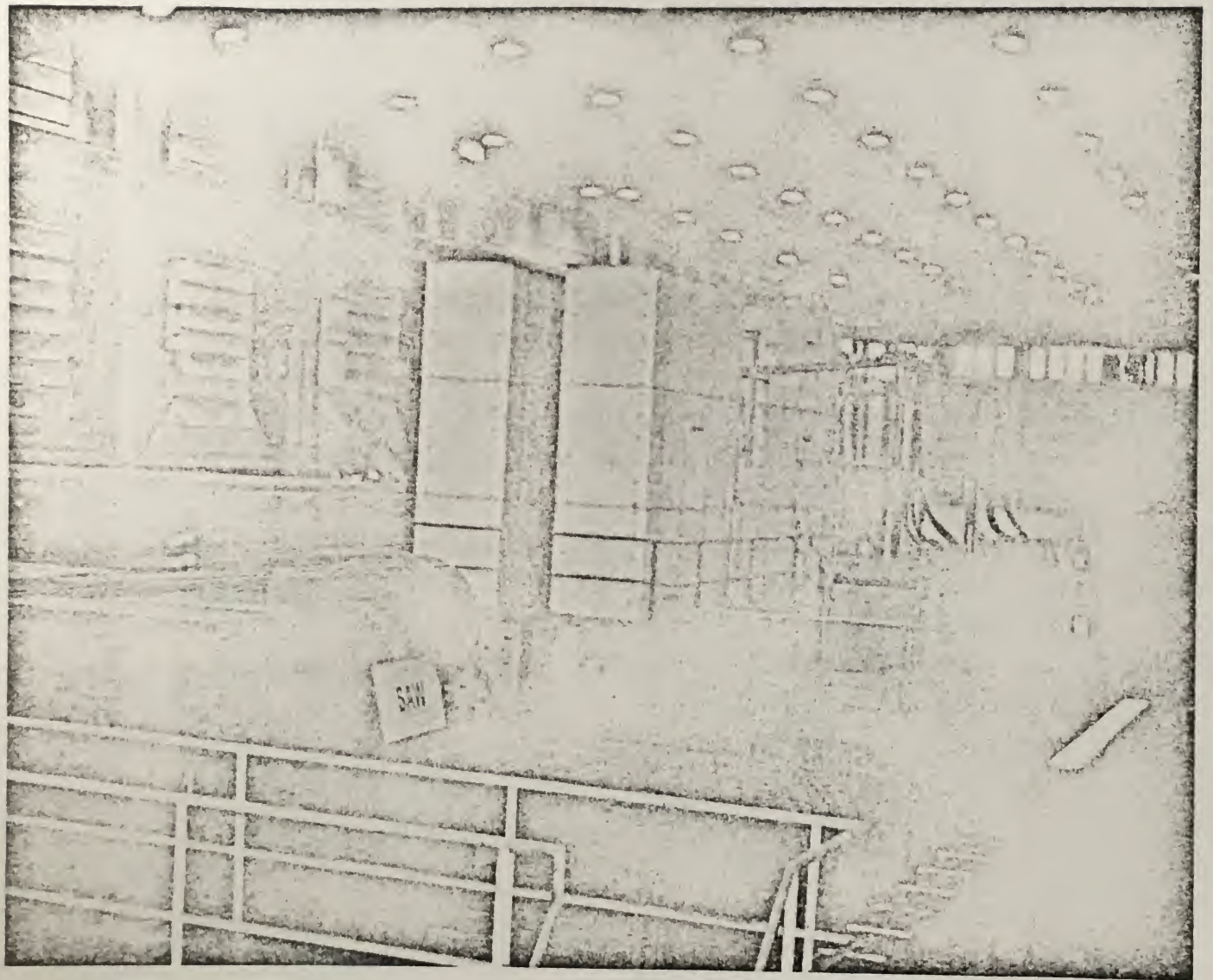
The manufacturing processes required to produce the six coin denominations from various metal alloys include:

- Melting and casting: A predetermined mix of metals is melted and cast into ingots.
- Hot and cold rolling: Ingots are reduced to the proper dimensions and the resulting strip is rolled into coils (See fig. 1.)
- Blanking: Round pieces of metal (called blanks or planchets) are punched out of the coils of strip.
- Annealing: The blanks are softened by heating and then cleaned, polished, rinsed, and dried.
- Upsetting: Soft blanks are rolled on their edges through a machine that raises rims around the edges.
- Stamping or coining: The blanks receive the obverse and reverse impressions from coinage dies in heavy presses.

The Philadelphia Mint has all six processes in its present facility, although it produces only part of what it needs for coin strip. The Denver Mint and the San Francisco Assay Office have only the last four processes, and the West Point Bullion Depository has only the final two processes. Coil strip and annealed blanks not manufactured in-house are purchased from commercial suppliers.

^{1/}Economic recessions took place during fiscal years 1956-1958 and 1968-1970. An economic recession also occurred during fiscal years 1973-1975, but the impact on coin demand was only limited because rising copper prices during that period led to increased demand for cents.

FIGURE 1



HOT ROLLING AT THE PHILADELPHIA MINT

SCOPE OF REVIEW

We reviewed current coinage operations and investigated ways coinage could be increased within the facilities presently available to the Bureau of the Mint. We also reviewed the Bureau's cost estimate for the proposed Denver Mint. The review was done at the various coinmaking facilities, at the Bureau's Washington Office, at the facilities of strip and coin blank suppliers, and at the General Services Administration, which assisted in the construction cost estimate.

We reviewed estimates of future coinage demand prepared by a Bureau of the Mint consultant, along with this consultant's recommendations for increasing coinage capacities and suggestions for future changes to the U.S. coinage system.

CHAPTER 2

COIN REQUIREMENT PROJECTIONS

Future requirements for coins, as with any commodity, cannot be known with absolute certainty. Coinage requirements are influenced by economic conditions and demographic and sociological phenomena, which are often difficult to project. In spite of this inherent uncertainty, however, reasonably accurate long range forecasts are necessary to allow the Bureau of the Mint to establish production requirements. The Bureau of the Mint needs credible long range planning to assure that the Nation's needs for coins are adequately met. Mint facilities need to be justified in advance of need to allow sufficient leadtime to procure the facilities once a decision to procure has been made.

The Bureau is currently seeking congressional approval to expand current capacity by justifying a new mint in Denver. The Acting Director for the Bureau of the Mint told the Senate Committee on Banking, Housing, and Urban Affairs that increasing demand for coins, estimated to reach 18 billion coins by 1980, will necessitate a new Denver facility.

In this chapter we will examine the (1) Bureau's method of projecting requirements, (2) complexity and accuracy of such projections, (3) alternate methods available for projecting future demand, and (4) some alternatives available to meet the projected increased demands for copper cents.

JUSTIFICATION FOR A NEW MINT

On February 17, 1976, the Acting Director of the Mint before the Senate Committee on Banking, Housing, and Urban Affairs justified the need for a new mint as follows:

"Passage of this bill is essential to assure production of coins in the quantities our nation will need by 1980 and beyond. The present facilities of the Mint could not do so. The demand for coins required for business transactions throughout the country has increased very rapidly during the past fifteen years. In fiscal year 1960, for example, the Mint produced a total of 2.6 billion pieces. By 1970, production had increased to 7.7 billion pieces, and during fiscal year 1975, the Mint's coin production reached 13.4 billion pieces. By fiscal year 1980, it is estimated that the national coinage demand will rise to 18 billion coins per year."

The Acting Director further stated:

"With these (existing) facilities operating at full capacity, including the timely funding and use of additional equipment planned for utilization in existing facilities, the Treasury Department probably will be able to meet the nation's coinage requirements through the 1970's, but with practically no margin for error in coinage demand forecasting and with no reserve capacity by the year 1980."

We believe there are several alternatives to increasing production without a new mint being built. These alternatives will be discussed in chapter 3 of this report. The remainder of this chapter will focus on coin projections, assumptions, and alternate approaches.

Mint coin projections

The Bureau of the Mint used four coin-forecasting models to project coin requirements to 1990. (See app. I for a description of these models). Three of the four models used some type of correlation with time, the other a correlation with economic variables. The models yielded significantly different results.

Total Coin Demand Forecasts

<u>Studies</u>	<u>Year of study</u>	<u>1972</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
------(billions)-----						
A. D. Little (consultant)	1963	5.515	6.605	9.083	12.366	16.941
Morrison-OPPE (note a)	1967	7.627	9.051	12.035	-	-
Hunter-Friedman (Mint)	1974	8.22	11.18	17.89	29.88	49.91
Hunter-DeLeo (Mint)	1974	8.42	10.02	15.45	23.93	37.05

a/This study was done jointly by Professor George Morrison (consultant) and the Office of Planning and Program Evaluation, Office of the Secretary of the Treasury.

The Bureau of the Mint has used three different methods for forecasting long range coin requirements.

1. The Bureau used a method developed by Arthur D. Little in 1963 which projected coin requirements by estimating the replacement and growth rate for each coin denomination and applying them to the estimated "stock" of coin in circulation.
2. The Bureau analyzed relationships between economic factors and coin demand to estimate coin stock growth rates for each denomination and thus indirectly total coin requirement (Morrison-OPPE model).
3. The Bureau estimated future annual coin requirements by extrapolation of the long term growth rates for each coin denomination. This method, called time series analysis (Hunter-Friedman model), was the one the Acting Director of the Mint chose in his presentation to the Committee. 1/

Since the Bureau chose this model for its projection, we will briefly examine its relative advantages and disadvantages.

Advantages

- Future time values are always known with certainty as contrasted with economic variables whose future values are uncertain.
- Time has served well as a substitute indicator of coin demand for the individual or combined influences of other indicators of coin demand.

Disadvantages

- Different mathematical formulas describing past coin demand can be found. These different formulas may lead to rapidly diverging forecasts of future coin demand.
- Time is of little explanatory value.
- Time does not serve as well as an indicator of coin demand if the growth rate of coins changes from that experienced in the past. Thus, any factors that alter the accuracy of that growth rate, e.g., changes in economic activity, alter the accuracy of the forecast.

1/The Bureau of the Mint chose to use the Hunter-Friedman model because the A. D. Little and Morrison-OPPE model parameters were outdated, although the forecast approaches were still valid.

Having identified some disadvantages in the above model, we took a close look at the Morrison model which recognizes the economic factors. Following are the relative advantages and disadvantages identified:

Advantages

- Demand for coins is related to economic activity, not time.
- Forecasting models developed using economic indicators will show a decreased demand if the economic indicators decline, whereas the Hunter-Friedman model will show ever-increasing demand. To illustrate, during the fiscal years 1956-58 and 1968-70 economic recessions, demand for cents decreased or leveled off, which is not consistent with the Hunter-Friedman model. (See app. II for fiscal years 1954-76 cent production and demand data.)

Disadvantages

- Correlation between economic factors and coin demand in the past has not been substantially better than correlation with time.
- Economic factors are difficult to forecast, especially into the long range future.

Relative accuracy of above projections

The Morrison economic model was developed in 1969 and it forecasted a demand of 9 billion coins by 1975. Actual demand in 1975 approximated 11.5 billion. Can this difference be explained by unusual and unforeseen circumstances? We believe it can. One major factor--the cent coin shortage of 1973 and 1974 and high copper pricing--triggered hoarding which increased demand for the cent by some 2 billion coins. Considering the above variable, which was not foreseen at the time of projection, one cannot help being surprised at how close this projection turned out to be:

	<u>1975</u>
	(billion)
Projection-initial	9.05
Projection-adjusted for abnormal price-inspired demand	11.06
Actual (6 years later)	11.5

Since this model did not project to the 1990 time frame, we have attempted to do so. The results of the two primary models show the following:

	<u>1975</u>	<u>1980</u>	<u>1990</u>
	----- (billion) -----		
Morrison-OPPE	9.05	12.04	21.33
Hunter-Friedman	11.18	17.89	49.91

Conclusion

From the above it is apparent that quite differing results can be achieved from the various assumptions one can make. We do not profess to have a better crystal ball than the Bureau, nor do we consider this to be the key point of whether one projection is better than another. Rather we believe all factors should be pointed out to the decision-makers to give them adequate options and opportunities to chose from alternatives.

We believe the foregoing discussions certainly demonstrate that more than one method exists for projecting needs with considerable differences in end results. We believe all these factors need to be clearly provided to the decisionmakers before a firm decision is reached. We believe more work is needed before such a decision to build is made. Following is a discussion of current Bureau efforts and alternative considerations.

CURRENT BUREAU OF THE MINT STUDY

After the models discussed above were developed, the Bureau decided to have a contractor, the Research Triangle Institute (RTI), make a comprehensive study 1/ of U.S. coinage requirements.

RTI developed a time series (trend) model similar to the Hunter-Friedman model. The advantages and disadvantages of using this type of model have been previously described. The major differences between the two models are that (1) RTI used fiscal years 1954-75 coin demand 2/ data while

1/The study has not yet been completed at the time of our review. Data used from the study should be considered preliminary. However, the study was recently completed showing only minor differences from the data we used.

2/RTI used net payout of coins by Federal Reserve Banks as an indicator of coin demand since historical data on actual demand for coins was not available.

Hunter-Friedman used 1950-73 data, (2) RTI projected coin demand for each coin denomination while Hunter-Friedman projected only cent and total coin demand, and (3) RTI developed three statistically valid coin demand projections while Hunter-Friedman used just one projection.

RTI estimated total 1990 coinage requirements to range between 26 to 64 billion coins by projecting trends developed from fiscal years 1954-75 coin demand data into the 1976-90 time period. RTI considered the most likely estimate--the one it recommended should be used for facilities planning--to be about 41.5 billion coins; of that total about 91 percent or 37.6 billion coins are cents. Therefore, we concentrated our review efforts on determining the mathematical accuracy and logical consistency of RTI's cent projections.

We found that RTI used acceptable statistical methods to develop its trend models. However, we believe that limitations inherent in RTI's model and inclusion of fiscal year 1974-75 cent demand data in the data base is likely to result in overstated cent requirements for the 1976-90 forecasting period.

As previously discussed a major limitation of the time series (trend) model is that it assumes coin demand will continue to increase at a mathematically prescribed rate. Therefore, any unusual factor, such as great economic activity, inflation, hoarding of coins due to anticipated or actual rise in the prices of copper and zinc, etc., will greatly influence the outcome and can distort the validity of the forecast.

Published statistics on such indicators of economic activity as gross national product, consumer price index, and population indicate that economic activity will grow at a slower rate in the 1976-90 time period than in the 1954-75 time period. For example, according to a nationally recognized economic consulting firm, the consumer price index, which grew at an average rate of 6.7 percent for the 1970-75 time period, is projected to grow at an average annual rate of only about 4.5 to 5.3 percent between 1976 and 1990. Similarly, the (current dollar) gross national product, which grew at an annual rate of about 8.5 percent between 1970 and 1975, is expected to grow annually only at about 7.9 percent over the 1976-90 period. Also, according to the U.S. Bureau of the Census, the U.S. population, which grew at an average annual rate of about 1.5 percent during 1954-75, is not expected to continue to grow as fast.

Furthermore, the increasing use of bank credit cards and checks, the projected use of the electronic funds-transfer concept, the decline in the rate of growth in vending machine sales, while considered by RTI, were not incorporated in its trend model. RTI stated that these factors are not expected to reduce future cent requirements significantly. While it would be presumptuous to forecast the precise impact these factors may have on future cent requirements, there can be little doubt that they would tend to lessen the rate at which the demand for cents has increased in the past. We believe that the net effect of the different growth trends indicates that the rate of growth for the cent will not be as high as predicted in the RTI's most likely forecast for the cent coin.

RTI's data base adjustments did not include adjustments for abnormally high cent demand in fiscal years 1974 and 1975, which were caused by the "cent shortage" evidenced during the latter half of 1973 and all of 1974. 1/ In contrast, RTI excluded demand data for nickels, dimes, quarters, and half dollars for the mid-1960s which was also abnormally high. This high demand was caused by clad coinage (75 percent copper and 25 percent nickel clad on a copper base) replacing the then-existing silver-based coinage. If RTI had excluded fiscal years 1974 and 1975 cent data, RTI's 1990 coin projection would have decreased from 41.5 billion coins to about 37 billion coins--about 4.5 billion coins.

The inconsistent data base adjustments, the projected trends in economic activity, and the apparent reasonableness of the factors included in the Morrison economic model suggest that the Morrison model, using updated information, may be used to forecast 1990 coin requirements. One update which was previously discussed added about 2 billion coins to the Morrison forecast to account for the 1973-74 cent shortage. Another is to use a projected annual growth rate for the (current dollar) gross national product for 1976 through 1990, developed by a nationally recognized consulting firm, as an indicator of future economic activity. The use of these projected gross national product growth rates led to a 1990 coin demand estimate of 28.8 billion coins. 2/ The following table shows the unadjusted and

1/This "cent shortage" resulted from speculative hoarding of cents caused by copper price rise and anticipated further price increases.

2/The estimate reflects a constant annual cent attrition rate of 13 percent for 1976-90. The estimate will change if the attrition rate increases or decreases.

updated Morrison economic model and RTI's most likely estimates of total coin requirements for 1980-90.

<u>Annual Total Coin Requirement</u>			
<u>Year</u>	<u>Unadjusted Morrison estimate</u>	<u>Updated Morrison estimate</u>	<u>RTI estimate</u>
------(billions)-----			
1980	12.0	17.4	18.4
1981	12.7	18.6	19.9
1982	13.5	19.6	22.0
1983	14.3	20.7	23.7
1984	15.1	22.2	25.3
1985	16.0	23.3	28.2
1986	17.0	24.4	29.5
1987	18.0	25.3	33.1
1988	19.0	26.3	35.7
1989	20.1	27.7	38.8
1990	21.3	28.8	41.5

We tested the reasonableness of the updated Morrison model forecast by using a model we developed ourselves. Our model used gross national product and consumer price index projections developed by a nationally recognized economic consulting firm and U.S. Bureau of the Census projections of population growth. It excluded fiscal year 1974-75 cent data. Our forecast of total 1990 coin requirements ranged from 25.6 billion to about 28.0 billion coins. RTI projections, which either partially or fully use economic indicators, showed a range of 25.3 billion to 38.7 billion coins for total 1990 coin requirements. However, these RTI forecasts do not exclude fiscal years 1974 and 1975 cent data which, we believe, should have been excluded.

On the basis of these tests, we believe that the use of the updated Morrison model would provide a reasonable alternative projection to RTI's most likely estimate of 1990 coin requirements.

Conclusion

Regardless of which 1990 projection we use, either projection is significantly higher than the Bureau's current production capacity. While there are a number of options available to expand production capacity, including some which are relatively inexpensive and could be easily implemented (see ch. 3 for a discussion of these alternatives), the Bureau is also considering possible changes to the current U.S. coinage system, which could dramatically change

coin requirement projections and thus the requirement for additional mint facilities. Since cents presently represent about 75 percent of the total annual coin production and this percentage is expected to increase, we examined changes under consideration for the cent. We believe some of these potential changes need to be considered before proceeding, since it is not reasonable to assume that the Bureau would continue indefinitely to produce cents at an ever-increasing rate with higher and higher production and distribution costs.

COINAGE SYSTEM CHANGES APPEAR NECESSARY FOR THE CENT

Assuming no changes in denominations, configurations, or material compositions of the present U.S. coinage system, the Bureau of the Mint is rapidly approaching a situation where projected increases in demand for copper cents 1/ coupled with projected manufacturing cost increases suggest a change to the current coinage system.

Compounding the problem is that the current price of copper, \$0.75 per pound, is projected to rise to about \$1.50 per pound by 1990. The Bureau of the Mint determined that the point where the material value contained in the cent equals the face value of the coin occurs at about \$1.50 per pound. When copper prices approach that level, hoarding of cents for their material value is expected to occur as it did in 1973-74 when copper prices rose to about \$1.40 per pound. If copper prices increase again, the rate of withdrawals from circulation will accelerate and the percentage of coins paid out by the Federal Reserve Banks, which simply constitutes replacement for attrition, will increase. By 1990, RTI projects that less than 20 percent of the coins paid out will be added to the circulating pool of coins.

RTI identified three major alternatives for changing the existing coinage system which have been presented to the Bureau for consideration:

- Change from a copper to an aluminum cent.
- Introduce a 2-cent coin to cocirculate with the cent.
- Discontinue manufacturing cent coins.

These alternatives are based on the same data used by RTI to compute its estimate of coin requirements as previously discussed beginning on page 9.

1/The copper cent is actually a 95-percent copper, 5-percent zinc coin.

Change from copper to an aluminum cent

After investigating a wide range of metals, alloys, and nonmetallic materials, RTI concluded that the best material for a new cent, if required, is aluminum. RTI believes that implementation of this option by 1978 will result in considerable positive seigniorage, 1/ \$284 million annually by 1990.

On the other hand, annual cent requirements are expected to increase over 20 percent--from 37.6 to 45.1 billion cents--by 1990, due to the accelerated withdrawal of copper cents from circulation and to the slightly higher attrition rate anticipated for an aluminum cent. (RTI's projections of annual coin requirements for all three alternatives to the existing coinage system are shown in app. III.)

Introduction of 2-cent coin

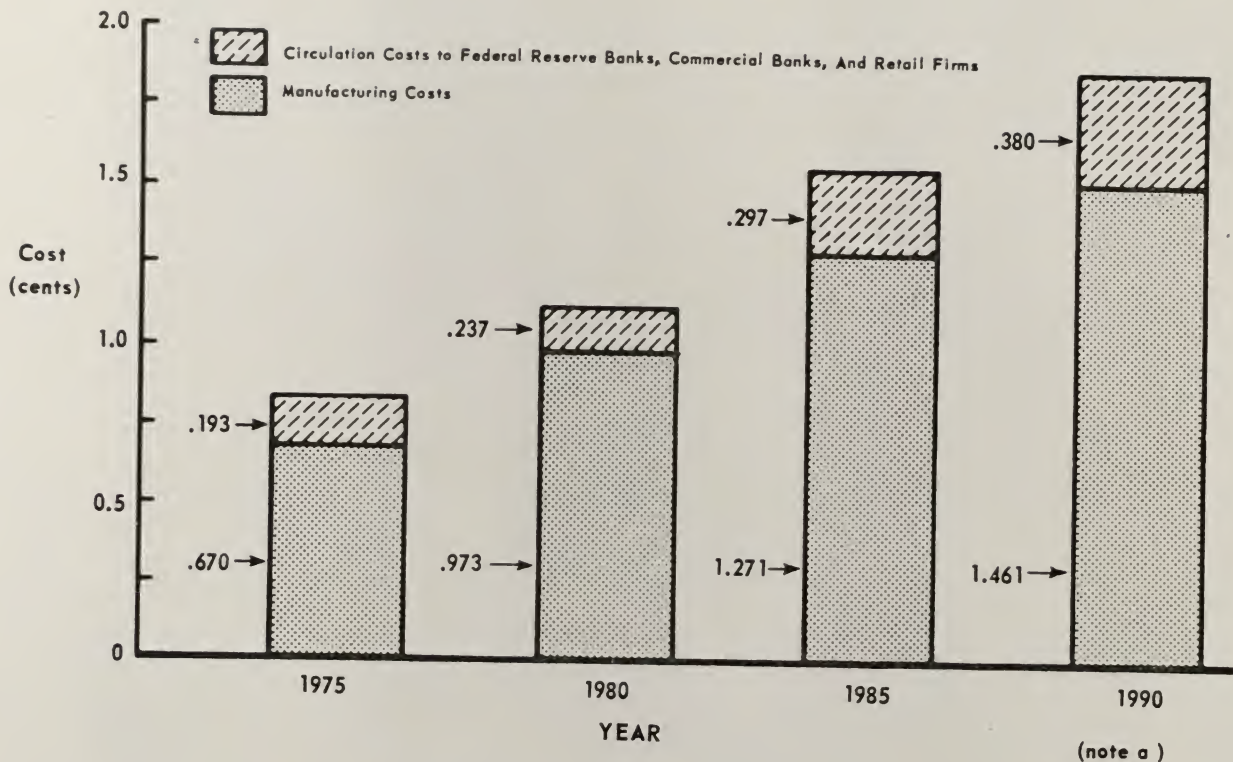
RTI believes that introduction of a 2-cent coin to cocirculate with the penny would provide the Bureau of the Mint an opportunity to limit copper cent production by offering a substitute denomination. RTI thinks that cent production could be limited to 4 billion coins, which they believe is sufficient to discourage excessive cents hoarding by coin collectors. Additional benefits to be gained by implementing this alternative would be (1) a 30-percent reduction of 1990 coin requirements, (2) postponement of current mint production facility expansion plans by about 3 years, and (3) less expansion when ultimately required. Disadvantages would include possible lack of public acceptance of the 2-cent coin and a requirement to modify or replace coin-sorting and other coin-processing equipment currently used by retail firms and banks.

Discontinuance of the cent coin

If the Bureau of the Mint were to continue the production of copper cents, the total costs for each cent manufactured and distributed would increase from 0.86 cents in fiscal year 1975 to a projected 1.84 cents in 1990. The current and projected costs to manufacture and distribute a cent are shown in the following illustration.

1/Seigniorage, as used by RTI, is the difference between the face value and production and distribution costs of the coin.

COST TO THE BUREAU OF THE MINT TO MANUFACTURE AND DISTRIBUTE A CENT COIN



a/As previously mentioned, RTI projects that only 20 percent of the 37.6 billion cents, or 7.52 billion cents, estimated to be paid out in 1990 by the Federal Reserve Banks will be additions to the circulating pool of cents. RTI projects that it will cost about 10.25 cents to add each of the 7.52 billion cents into circulation. This cost was calculated by including not only the manufacturing and distribution costs incurred by the Bureau of the Mint, but also the processing, handling, and inventory costs incurred by Federal Reserve Banks, commercial banks, and retail firms.

If, on the other hand, the Bureau were to discontinue producing the cent coin in 1978, most of the approximately \$0.5 billion cost to add cents to the circulating pool of cents from 1978 to 1990 would be avoided. Additional benefits would include:

--No additions to existing mint production facilities would be necessary.

- An immediate reduction in purchases of about 100 million pounds of coin strip by the Bureau of the Mint.
- Savings generated by reductions of an estimated 534 mint personnel.
- Reduced shipping costs amounting to about \$2 million annually.
- Reduced costs of shipping, storage, and handling to Federal Reserve and commercial banks and retail merchandising firms.

Disadvantages would include:

- A moderate increase in the production of other coin denominations.
- New pricing methods which could have an inflationary impact.
- Retraining on rounding for personnel for handling cash transactions.
- Loss of revenues to cent strip manufacturers and the trucking industry.
- Adverse community impact associated with mint personnel reductions.

RTI believes that implementation needs to be time-phased with some forewarning to the public. They believe that an announcement of the scheduled termination of cent production should be made at least 1 year in advance. This time period would allow for an orderly and efficient transition by businesses in pricing, packaging, and sales policies and for a public relations campaign to educate the public on the implications of eliminating the cent.

Conclusion

Assuming that RTI's cent requirement, copper price, cent-manufacturing and distribution cost, and cent attrition rate projections are reasonable, it will cost about 10.25 cents in 1990 to add 1 cent to the circulating pool of copper cents. It does not seem reasonable to pay that amount of money to continue to produce a coin which has little purchasing power.

We believe that serious consideration should be given first to making changes to the existing coinage system,

including those discussed in the report, before proceeding to construct a new mint facility such as the proposed new Denver Mint.

CHAPTER 3

COIN PRODUCTION CAN BE INCREASED

TO MEET NEEDS THROUGH 1990

USING PRESENT MINT BUILDINGS

The Bureau of the Mint has a number of options open to it which if implemented would increase the coinage capacities of its existing facilities from 18.1 billion to over 50 billion coins a year. One option is almost immediately available and requires only a decision to use existing equipment. Other options would require relocating some functions and adding coinage equipment. Still other options would require the Bureau to place increased or total reliance on commercial suppliers for its coinage metal requirements.

Another option is to use present capacity, which will exceed demand for at least the next 4 years, to build up cent inventories to meet future requirements.

CURRENT CAPACITY OF OPERATING FACILITIES

The current operating coining facilities are the Philadelphia and Denver Mints and the West Point Bullion Depository. These three facilities can produce about 18.1 billion coins a year, based on the maximum output of the currently available production equipment.

<u>Locations</u>	<u>Equipment capacities</u> (billions)
Philadelphia Mint	8.4
Denver Mint	8.0
West Point Bullion Depository	<u>1.7</u>
Total capacity	<u>18.1</u>

None of these facilities have operated up to these capacity figures; however, the Denver and Philadelphia Mints have the equipment that will provide the above capacities. The Denver Mint does appear overcrowded and its capacity should probably be reduced. This is discussed further in chapter 4.

OPTIONS AVAILABLE TO INCREASE PRODUCTION IN EXISTING FACILITIES

The following table lists changes in mint operations which could be made to increase future production within

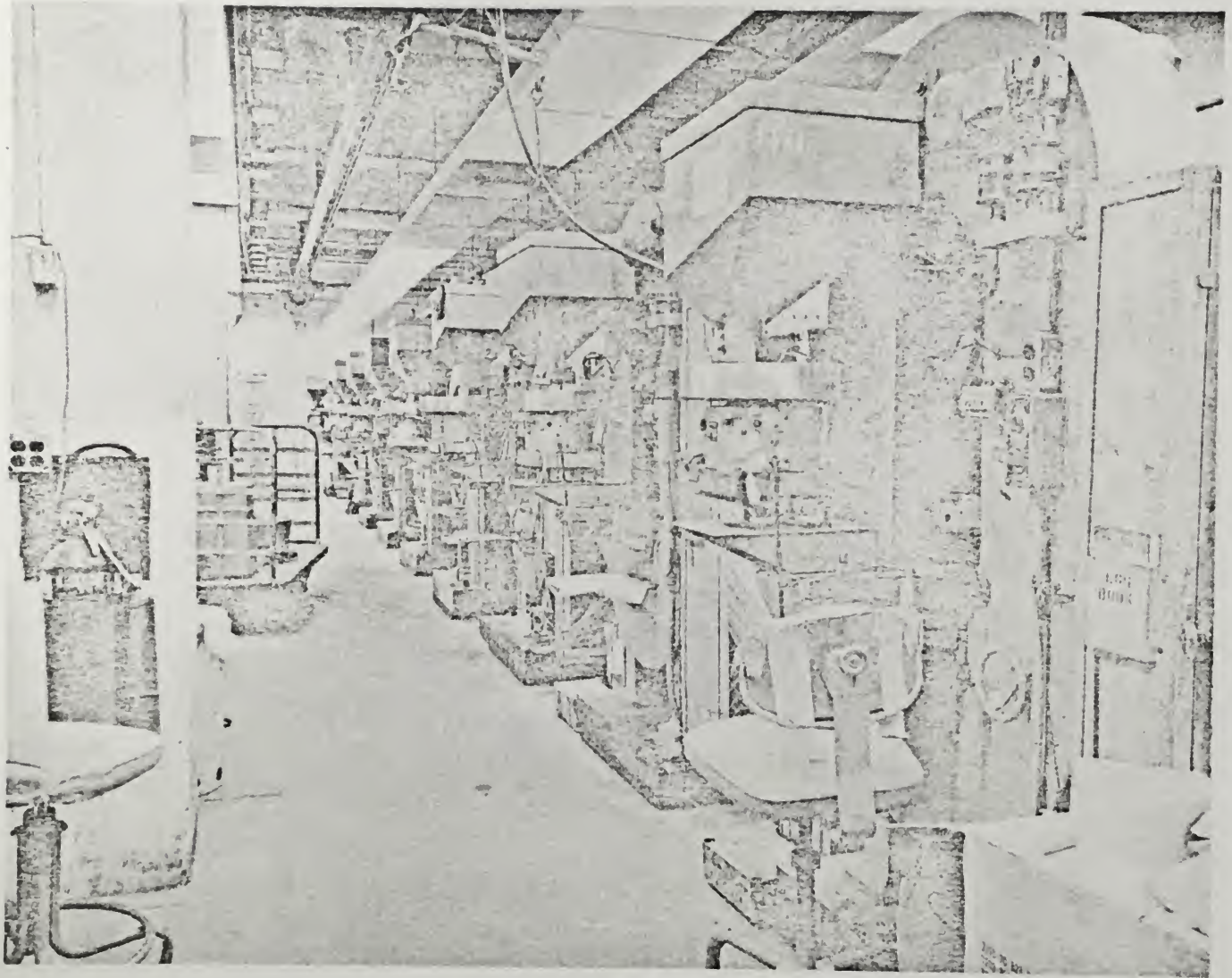
present facilities of the Bureau of the Mint. In each case we estimated the additional cent coin production that could result from the change.

<u>Change</u>	<u>Estimated capacity increase</u> (billions)
Use San Francisco Assay Office	2.0
Move medal production from Philadelphia and increase coinage space	3.3
Renovate Philadelphia production area	1.6
Replace West Point coin presses	0.6
Increase coin presses at West Point	1.1
Purchase all clad strip for the Philadelphia Mint	3.3
Purchase all other strip for the Philadelphia Mint	15.1
Purchase 1¢ blanks for the Denver Mint	<u>5.6</u>
Total increase	<u>32.6</u>
<u>Use production capacity at San Francisco Assay Office</u>	

The San Francisco Assay Office was built in 1937. Some general circulation coins have been made in the past several years and some foreign coins have been made at this location. Since 1964 the major workload has been manufacturing proof coins and packaging proof and uncirculated coins.

The Assay Office now has coining presses and other equipment for making general circulation coins. (See fig. 2.) The proof coin presses are in a separate area. The equipment for making general circulation coins can make about 2 billion coins a year and the officer-in-charge told us that production could commence in 6 months after a decision was made to use the facility. Contracts for purchase of strip could be obtained within 6 months based on current procurement experience.

FIGURE 2



COIN PRESSES AVAILABLE FOR PRODUCTION AT THE SAN FRANCISCO ASSAY OFFICE

Move medal production operation from Philadelphia and increase coinage space

The Philadelphia Mint makes various commemorative medals, using about 20,000 square feet for manufacturing and packaging these medals. Relatively few medals are made in any one year, except that in 1973 through 1976 a number of special bicentennial medals were made. Mint officials expect post-1976 production to return to pre-1973 levels.

San Francisco Assay Office officials told us they could make the commemorative medals along with proof coins on their present equipment, except that equipment for larger pieces (over 1-1/2 inch diameter) would require transferring some equipment from Philadelphia. Philadelphia Mint officials, in turn, told us that transferring this function to San Francisco would be feasible if some equipment were kept for making sample coins and small production runs.

If this transfer were made, the 20,000-square-foot area would become available for other use. The Philadelphia Mint deputy superintendent said the mint would want to use part of the vacated area for research and development but would make the balance of the space available to install coining presses. A 1973 engineering study report shows that the space can be used to accommodate 24 coining presses, but that structural limitations in this area require that the location of production equipment be carefully controlled. The deputy superintendent told us that blanking, annealing, and other operations necessary to supply blanks to these presses could be handled by equipment already available in the existing coin production area. These 24 presses would add production capacity of 3.3 billion cent coins a year.

Philadelphia officials estimated that purchasing new presses, some automated handling equipment, and installation would cost about \$2.5 million. Costs to transfer the medal equipment are estimated to be about \$9,300. Leadtime for obtaining and installing the new equipment at Philadelphia would be no more than 18 months, based on past experience.

Renovate Philadelphia Mint coin production area

The current coinmaking capacity at Philadelphia is 8.4 billion coins. However, the Bureau has been planning for some future expansion in coinmaking at this mint by hiring an industrial engineering consultant to recommend ways to increase capacity to 10 billion coins a year. The consultant has made a preliminary recommendation which includes changes to material handling, some moving of equipment, and some renovation of the present work area--mainly

adding a mezzanine floor area. Also, some new equipment would have to be installed.

The recommendation is for a time-phased approach which would make the changes gradually between now and 1980. The consultant has prepared a preliminary \$11 million cost estimate of this renovation but the Bureau has not yet approved it.

The renovation has been discussed with Philadelphia Mint officials who agreed the changes can be accomplished. This renovation would result in an increase of 1.6 billion coins a year to the Bureau's coinmaking capacity.

Change West Point equipment to more productive models

The West Point Bullion Depository currently has 20 coining presses which are limited to striking two 1-cent coins at each stroke (a dual press). Most of the Bureau's coining presses can strike four 1-cent coins at each stroke (a quad press). These quad presses are somewhat larger than the dual presses. Operating experience on the quad presses in Denver and Philadelphia, as given to us by mint officials, is that quad presses run slower and experience a higher downtime than the dual presses used at West Point.

West Point officials say that quad presses can replace the dual presses, but that only 16 quad presses can be placed into the press room. The other equipment (upset mills, riddlers, and counting equipment) needed to handle the production from 16 quad presses is available or could be accommodated.

These 16 presses can increase the current capacity from 1.7 billion to 2.3 billion cent coins a year, or a 0.6-billion-coin increase.

Leadtime to make this change would be the 18 months needed to purchase and install the 16 new presses. The cost of 16 new quad presses and other equipment would be about \$1.2 million.

Increase coin presses at West Point

The West Point Bullion Depository has a number of vault rooms, some of which have been renovated to accommodate coining equipment and for other uses. Some of the vaults are now empty or used for coin storage. We asked the officer-in-charge if one or more vaults could be used

to hold additional coining equipment and thereby increase the capacity of the facility.

We were told that the facility could be renovated to add eight coin presses and other required coining and support equipment, assuming no vaults would be required for coin storage. This would be the maximum capacity increase they could handle. The addition of eight coin presses would increase capacity by 1.1 billion cent coins a year.

The officer-in-charge estimated renovation costs, on the basis of past experience, to be \$125,000. The cost of the additional coin presses and other equipment required would be about \$600,000. We believe that renovation could be accomplished within the 18 months leadtime required for the new equipment.

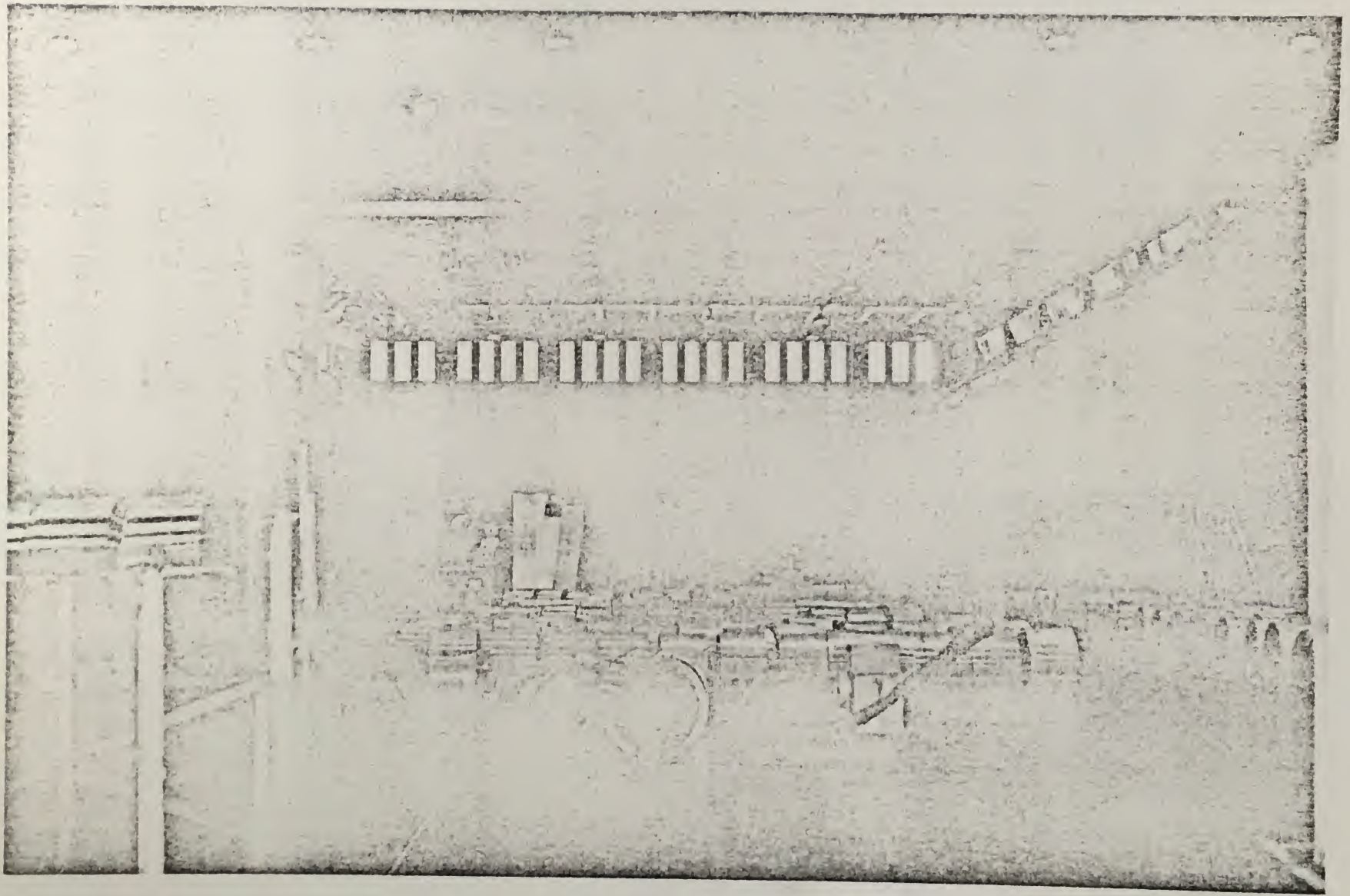
Discontinue stripmaking operations
and add coining equipment at the
Philadelphia Mint

The Philadelphia Mint has its primary production area on one floor, containing a total of 142,000 square feet. About 92,100 square feet is used to produce copper, bronze, and cupro-nickel strip, from which coin blanks are punched. Most major equipment for this strip production area was purchased in 1969 and total equipment cost was about \$13 million. As of May 1976 the book value was about \$8.9 million. The major equipment is being depreciated mostly over 15- and 20-year periods.

The largest part of the strip production area, 73,800 square feet, is used to melt, cast, and roll the strip. (See fig. 3.) The remaining 18,300 square feet is used to bond cupro-nickel and copper together to make the clad material for 10¢, 25¢, 50¢, and \$1 coins. The bonding equipment--costing about \$3.2 million--is used only for that operation and, if removed, other strip manufacture for the cent and nickel coins could continue.

Even with this equipment, Philadelphia has been able to make only 35 percent of its strip requirements since 1970, and usually the manufactured strip has been more costly than purchased strip. Up until 1976 the mint's costs were becoming more competitive with purchased strip prices. Had the Philadelphia Mint purchased all its strip requirements in 1975, a cost savings of \$165,113 would have been realized, and in 1976 the mint would have saved over \$1 million had it purchased all strip required.

FIGURE 3



STRIP PRODUCTION AREA

Based on recent purchasing history, there are four suppliers for the bronze strip, two suppliers of cupro-nickel, but only one supplier of clad strip. We discussed the availability of clad strip with representatives of the current supplier company. Supplier personnel told us their equipment can supply almost twice the foreseeable (1990) mint needs for clad material, and they are willing to expand the operation if necessary. They also stated an interest in buying some mint production equipment, especially the bonding mill, if the mint discontinued this operation.

We also visited two other companies, one of which had previously bid on and supplied clad strip to the mint. Both told us they could commit sufficient capacity to meet the mint's needs if they were given some reasonable long term commitment. One company would have to purchase the copper and cupro-nickle strip, however, since they have only the bonding mill operation.

With the number of companies capable of manufacturing clad strip, and the sufficient capacity available from the current supplier, we believe the mint can feasibly rely on commercial suppliers for clad strip. If the Bureau decided to purchase all clad strip, the space currently used for in-house production could be made available for coin production. The space is large enough to hold two automated cent production lines which could produce 3.3 billion coins a year.

The cost of this change would be the cost of the equipment--about \$1.7 million a line for the major items--and its installation and the cost to remove the bonding equipment. Leadtime for new equipment would be about 18 months, based on past procurement history.

As to the remaining part of the strip manufacturing operation, we visited two of these suppliers and they told us the industry could supply all of the Bureau's requirements for the cent and nickel material. If the Philadelphia Mint were to purchase these strip requirements, it could vacate the remaining 73,800 square feet and use this space for coining equipment. The space could be used for automated cent production lines like two such lines now in place at the Philadelphia Mint. The space would hold at least 9 such lines, each capable of producing 1.68 billion coins a year, or about 15.1 billion cent coins.

This option would cost about \$1.7 million for each production line, plus the cost of removing present strip production equipment. There would also be a loss on the

unamortized value of the equipment removed, the amount depending on when the move was made. Leadtime for this option would likely be the time needed to purchase and install the coining equipment, about 18 months, based on past experience.

A problem with this option is the limited shipping and receiving capability of the present mint building. This would have to be studied for possible solutions and costs. Possible solutions could include going to a two- or three-shift shipping and receiving operation, modifying the existing dock area, or adding a new dock area.

Purchase cent blanks to devote
more space to coin presses

The Bureau of the Mint has been purchasing cent blanks from commercial sources to supply some of the needs of the West Point Bullion Depository coining facility. The blanks are annealed by the supplier so that West Point needs only to upset ¹/_{the blanks}, imprint the design with coining presses, and screen the coins to weed out the off-size coins. A major advantage of this procedure is that, where space is limited, more coins can be produced because there is no need for blanking presses and annealing and cleaning equipment. Another advantage is that there is no scrap from the blanking process. About 25 to 30 percent of bronze strip is scrap after the blanks are punched out.

A major disadvantage is that the cost of purchased blanks has been higher than the cost to make blanks in-house. For example, Denver's cost of making annealed cent blanks from purchased strip during the first 6 months of fiscal year 1976 was \$1.55 per 1,000, while procurement of blanks delivered to West Point was \$1.78 per 1,000; a difference of \$0.23 per 1,000 coins produced. A recent study by the Bureau's internal audit staff estimates an even higher cost penalty. We don't know if this cost disadvantage would exist or be as large if blanks were purchased on a larger scale. Purchasing blanks at \$1.78 per 1,000 would result in \$230,000 increased cost for each 1 billion cent coins produced.

As an example of what would happen to costs and production if blanks were purchased, we estimated what could be done at the Denver Mint if it purchased all cent blanks.

¹/Upsetting is the manufacturing process where soft blanks are rolled on their edges through a machine that raises rims around the edges.

This move would eliminate the need for six of eight blanking presses and three of five annealing and cleaning lines. The space made available by removing this equipment could accommodate 40 quad-type coin presses capable of making 5.6 billion cent coins annually. The extra cost of the blanks for these coins at \$0.23 per 1,000 would be about \$1,288,000. Also, Denver would have to buy cent blanks for its existing coin presses, and the extra cost of these blanks would total about \$1,587,000.

The cost for such a change would be the cost for 40 new presses, about \$2.8 million; leadtime for purchasing the presses would be about 18 months.

We discussed available industry capacity to supply blanks with the Bureau's two sources of supply. They said their total available capacity is now only about 70 percent of what would be needed for Denver. Both said that increased supply could be made available.

We also considered the possibility of purchasing cent blanks for the Philadelphia Mint. However, as previously discussed, limited shipping and receiving capability of the present mint building would make this an unattractive and possibly a very costly option.

BUILD INVENTORY TO SUPPLY FUTURE DEMANDS

The coinmaking capacity of the three facilities now in use is about 18.1 billion. The Bureau of the Mint also has available the production capability of the San Francisco Assay Office, which could add 2 billion coins to this capacity, if the Bureau decides to use it. If we assume that either Research Triangle Institute's or the modified Morrison model coin demand figures are accurate, this capacity is not needed until about 1980. These facts present the possibility of stockpiling excess manufactured coins to meet future demand.

If, for example, the Bureau should put the San Francisco operation into production and replace the medal production in Philadelphia with additional coining capacity beginning in fiscal year 1978, the inventory accumulation could be used to meet the Bureau's estimated demand (41.5 billion coins a year by 1990) through 1986. If we were to assume that the modified Morrison model estimate of demand (28.8 billion a year in 1990) is more accurate, the mint could supply future demand until 1984 using only the 18.1 billion coin capacity of the three facilities now in use.

The catch in this alternative is the costs involved in storing these coins. Available storage in the Bureau's

present facilities is limited to approximately 4 to 6 billion coins, and storage of the quantities needed for this alternative would require obtaining additional space, double movement of coins, and additional security measures for the storage sites.

The Facilities Project Manager has looked into possible storage at a Government-owned facility (Rocky Mountain Arsenal) near the Denver Mint. One available building has capacity to store about 4 billion cent coins. There would be no rental on this building, but some renovation would be necessary.

Possibly there is similar Government-owned space in the Philadelphia area that could be available for coin storage. The Philadelphia Mint has looked into obtaining off-site storage for coins and has found some space for a small amount of storage at Frankford Arsenal and other space that will become available in the near future. They also obtained some information on the cost to install an alarm system.

Only the Denver and Philadelphia Mints would require external storage. Both San Francisco and West Point could ship out all their production to nearby Federal Reserve banks and branches.

CHAPTER 4

CURRENT DENVER MINT PROBLEMS AND

ESTIMATED COSTS FOR A NEW MINT

The primary reason advanced by Bureau of the Mint officials for a new Denver Mint is the expected increased demand for coins and resulting need for an increased production capacity. They state that expanded production cannot be obtained in the present structure, and that the current building is too crowded and obsolete. While we believe there are alternatives available to increase production without a new mint being built, we did look into the problems of the present building to see whether they are serious enough to require a replacement. We also evaluated the cost estimate presented to the Congress for the proposed new mint.

PROBLEMS REPORTED AS PRESENT IN DENVER MINT BUILDING

In statements on the proposed legislation now before the Congress to authorize funding for a new mint, Bureau of the Mint personnel commented on problems with the present Denver Mint. Such comments included "the present Denver Mint is 70 years old and structural limitations relating to floor loads and work flow severely restrict the development of efficient production operations," and "the outmoded production facilities of the Denver Mint." The Denver Mint Superintendent also told us of problems with excessive noise levels in the production area.

Research Triangle Institute, under its objective of assessing coinage production capabilities and recommending changes, stated:

"This study adopted the assumption that if a new Mint were required, it would be constructed in Denver; because Denver is a rational location for a Mint to economically service the western part of the U.S.; prior to the study a site in Denver had already been purchased and preparations for a new Mint were well in progress; and the existing Denver Mint is effectively obsolete due to its inefficient layout, limited access, excessive noise levels, extreme congestion, and potential structural fatigue."

RTI then concluded,

"Under any circumstances the existing Denver Mint must be replaced or its long-term capacity must be curtailed substantially."

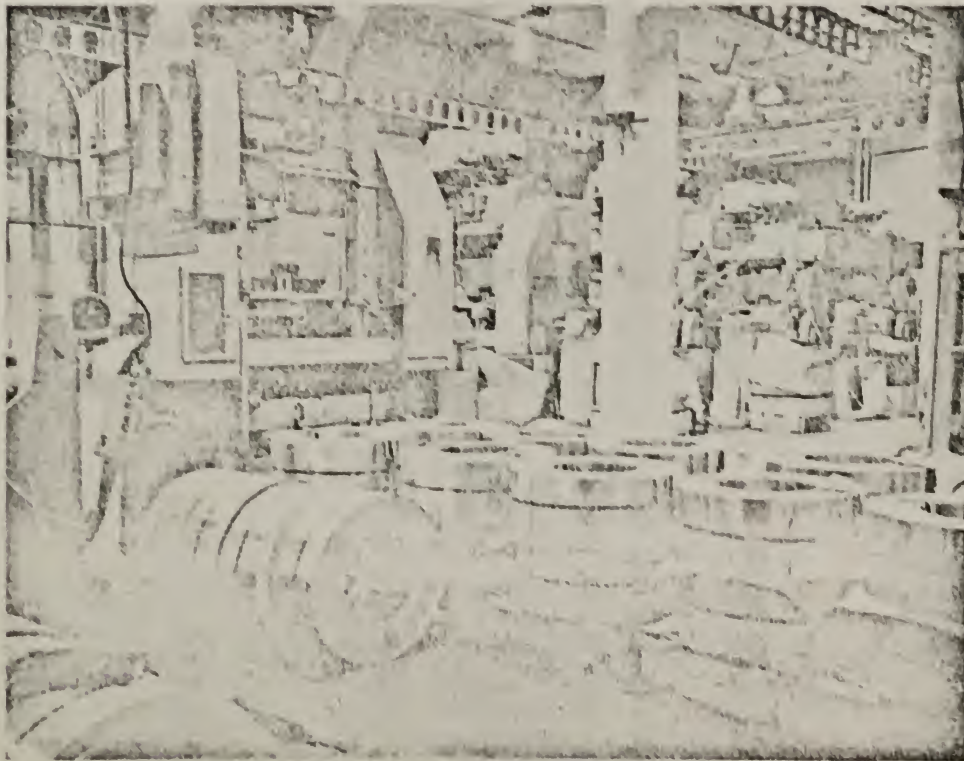
FINDINGS RELATED TO REPORTED PROBLEMS

There are problems with the current Denver Mint building, but the serious one of structural fatigue has not been found in three recent engineering studies.

We observed that the other problems mentioned are present, but we believe they can be reduced or eliminated if plant capacity is reduced. The equipment buildup in the Denver Mint has apparently overtaxed the usable floor space. While this situation might be workable for the short term, we believe it should not continue over the long term.

The two most serious problems we observed are congestion and high noise levels. Production machines are spaced quite closely and, more importantly, in-process material is stored in aisles and in various out-of-the-way locations. (See fig. 4.)

FIGURE 4



CONGESTION AT THE DENVER MINT

A measure of the extent of congestion is a comparison of space used for production equipment and in-process storage for an 8.0 billion coin facility in Denver with the estimated space needed in Philadelphia for a similar facility designed to produce 10 billion coins. Denver has about 38,000 square feet which is being used for its production while the Philadelphia area is designed with over 52,000 square feet. However, about 5,000 square feet of the space being used in Denver probably should not be so used, in our opinion, because of its location and for safety reasons. A simple comparison of square footage, 33,000 vs. 52,000 thus indicates that the Denver production should be less than the 8.0 billion coins it is now equipped to produce.

The proximity of various pieces of equipment to one another--each of which is fairly noisy--creates higher than acceptable noise levels throughout most of the production area. Workers in the area are issued ear plugs or muffs to lessen the noise, but some workers have successfully claimed that they have suffered permanent hearing damage. A plan to enclose the noise-offending equipment has been proposed for the Philadelphia Mint work area. Similar enclosures might also be placed around equipment in the Denver Mint production area to reduce this noise problem.

The production layout in the Denver Mint is obviously not as good as could be obtained with a one-level building or with some automated material-handling equipment. In-process material must be shunted up or down for storage in large tanks and on elevators. Also, some equipment is not located in line with the necessary process flow, thus requiring material to be hauled longer distances than necessary and adding to congestion. Whether this is significantly inefficient is difficult to prove. Inefficiency can usually be measured, we believe, by relative costs per unit of production. On this basis, Denver is not inefficient when compared to the other U.S. mint facilities since Denver's unit costs are less than either Philadelphia or West Point.

Limited access to loading docks was also mentioned as a problem. We analyzed the existing situation at Denver and found that the problem, if any, exists in the scheduling of delivery vehicles. There is sufficient space to handle incoming and outgoing material at a much higher production rate, and space is available on the mint grounds so that vehicles do not have to block city streets in order to gain access to the shipping and receiving docks.

The 70-year age attributed to the building is not completely accurate. Part of the structure was built in 1906,

but the area currently used for production was built in 1945 and 1965.

Overall, we think there are problems in the present Denver Mint, but they are not so great as to require that the structure be replaced. The most serious problems, congestion and high noise levels, can be alleviated, if not completely overcome, by removing some production equipment.

COST ESTIMATE IS OUTDATED
AND POSSIBLY OVERSTATED

The Department of the Treasury prepared a cost estimate in 1975 for legislation to authorize construction of a new mint in Denver. The estimate totals about \$65 million and is composed of the following:

Denver Mint Cost Estimate

(000 omitted)

Building construction	\$27,045
Site development	2,000
Construction cost adjustment to 10/77	8,365
Equipment (includes installation and escalation to 10/77)	14,000
Contingencies	2,971
Exterior lighting, fencing, landscaping, and miscellaneous	1,200
Land acquisition	1,500
Construction management and inspection	2,907
Design, design review, and management	3,975
Start-up, relocation, and transition	900
Total	<u>\$64,863</u>

The estimate is based on a 450,000-square-foot facility equipped for an initial production level of 10.5 billion coins annually. The building will be large enough to allow expansion to about 16 billion coins annually through the installation of additional equipment.

How the estimate was made

In 1971-72 the Bureau prepared a preliminary space survey to determine space requirements for a new facility. General Services Administration (GSA) and Department of the Treasury jointly estimated the cost of the facility at about \$55 million in legislation proposed in 1973. This legislation failed to pass in the House of Representatives.

The latest authorization bill was introduced in March 1975 and contains the current cost estimate of about \$65 million. The cost estimate was increased from the earlier estimate to reflect inflation and increased space requirements. The update also deleted equipment and some, but not all, space for strip production. A strip production capability is not included within this cost estimate and would require another authorization. As mentioned on page 2, the present Denver Mint does not have strip production facilities.

The estimate was prepared jointly by the Bureau's Facilities Project Manager and a GSA cost estimator. Building cost was developed using the Philadelphia Mint construction costs as a base and was adjusted for inflation and the difference between construction costs in Denver and Philadelphia. An add-on of 15 percent was included to meet Occupational Safety and Health Administration standards, to comply with pollution control laws enacted since construction of the Philadelphia Mint, and to allow for the higher cost of multistructure construction. The basic building cost estimate totaled about \$60 per square foot.

Individual estimates for site development and a start-up allowance were prepared by the Bureau's Facilities Project Manager. The only figure within the project estimate that did not require estimation was the cost of land acquisition since the site was purchased from the City of Denver in 1975 at a cost of \$1.5 million. The remainder of the project estimate includes several add-ons, such as an allowance for inflation from the preparation date of the estimate until the midpoint of the construction period, exterior fencing and landscaping, provisions for contingencies, design monitoring, and construction management.

Questionable basis used in the estimate

GSA has guidelines for preparing construction estimates stating that estimating construction cost is not an exact science. This implies that many aspects of estimating are judgment considerations requiring interpretation by the estimator.

A GSA cost estimator stated that several estimating methods have been used in the past, for example, allowance tables for various functional uses of space, and historical costs of similar projects as the basis for construction cost estimates. The GSA cost estimator used the Philadelphia Mint construction costs as the basis for the Denver Mint cost estimate. He believed this was an appropriate procedure because he considered the two projects similar.

We believe this approach may be conceptually reasonable but there are indications Philadelphia Mint construction costs may have been higher than usual which make the two projects not comparable. An internal GSA memorandum discusses possible high costs in the Philadelphia Mint because:

- The building is completely covered in granite with an imposing entrance and lobby.
- The building could be built at considerably less expense if the site would allow a single level.
- Earthwork and shoring are quite extensive and very expensive because of proximity of streets and special internal design.
- Phased construction with accelerated scheduling may have added up to 30 percent to the final cost of construction.
- Exterior treatment requested by the Philadelphia Fine Arts Commission may have increased costs up to \$1 million or more.

Some or all of the above high-cost conditions may not be applicable to the Denver Mint construction. Another indication the two projects may not be comparable for cost-estimating purposes is that the Philadelphia Mint includes an in-house strip production capability which is not planned for the Denver Mint.

We did not attempt to quantify the difference in costs that might be due to the lack of comparability. We did discuss the internal memorandum items with the GSA cost estimator. He said he had not seen this memorandum, and even if he had he would not have changed his estimating method. However, he did say that the Denver Mint probably could be built as much as \$5 per square foot cheaper than his estimate.

Also, we believe that the estimate overstated the probable cost increases because of inflation. The Denver Mint base cost was derived from the Philadelphia Mint actual costs. ^{1/} These actual costs were then increased by an annual percentage beginning from the contract award date for

^{1/}The Philadelphia Mint was constructed in four different phases. The sum of the costs for each phase make up the Philadelphia Mint's total actual costs.

each construction phase. It would have been appropriate, in our view, to begin the adjustment for inflation at the estimated completion date for each of the four construction phases. We believe the Philadelphia Mint contractors would have included inflation over the duration of the contract in their bid so that actual contract costs would have included inflation over the construction period. To include an additional factor for inflation would tend to overstate the estimate.

We discussed the space allowances used by the Bureau's Facilities Project Manager with him in detail because we believed certain areas were overestimated. He agreed with us in some respects and as a result he reduced the space requirements for the new mint by 35,000 square feet. This reduction was made primarily by the elimination of space for a proof-coining operation which Bureau officials agreed may not be required. The result of this reduction in space is a decrease of about \$2 million in the base cost estimate for the building. The cost impact is increased as the various add-on factors are applied.

The deletion of 35,000 square feet results in a total space requirement of 415,000 square feet; however, exact sizing of the facility is not and will not be decided until design is completed. The design phase may add to or subtract from this total and the cost estimate will increase or decrease accordingly. The Bureau has recently received the results of a study it contracted for the Philadelphia Mint, which provides equipment-spacing requirements for the production of 10 billion coins annually. Comparison of space requirements in this study and those proposed for the new Denver Mint indicates possible oversizing in the new facility.

The purpose of this type of estimate is to formulate a request for authorization of a project. It is a preliminary or budget estimate and is not based on finalized design. The cost estimate for the new Denver Mint was initially prepared in 1973 and updated in 1975. There have been modifications in the scope of the project since these estimates were developed which makes them outdated. There are also indications that costs and sizing of the proposed facility may be overstated.

The Bureau should reevaluate its space requirements for a new Denver Mint. This will require the development of a new cost estimate by Treasury and GSA. This estimate should be prepared in accordance with suggested guidelines in the General Services Administration's Cost Estimating Handbook and should not be based on historical construction costs of the Philadelphia Mint.

CONCLUSIONS AND RECOMMENDATIONSCONCLUSIONS

The Secretary of the Treasury is charged by the Congress with responsibility for making adequate numbers of coins to meet national needs. The Bureau of the Mint, established to manufacture coins, now has a coinmaking capacity of about 18.1 billion coins in three production facilities. In fiscal year 1975 it produced about 13.1 billion coins to meet demands.

The Bureau is currently seeking congressional approval for expanding current coinmaking capacity by building a new Denver Mint at a cost of \$65 million. The new mint is being justified on the basis that increasing demand for coins, estimated to reach 18 billion coins by 1980, will leave practically no margin for error in coin requirement forecasting and no reserve capacity to meet coin requirements beyond 1980.

We found that the Bureau had four different models available for forecasting future coin requirements. Depending on the assumptions used in these models, 1990 coin requirements range from 17 to 50 billion coins. These different projections were not made available to the Committee.

A current Bureau study projects 1990 coin requirements to range from between 26 to 64 billion coins. The study projects the most likely estimate to be about 41.5 billion coins; of that total about 91 percent or 37.6 billion coins are cents.

We believe that a previously developed Bureau coin-forecasting model, using updated information, offers a reasonable alternative to the current Bureau study's 1990 coin requirement projections. This alternative projection amounts to about 28.8 billion coins. However, either projection is significantly higher than the Bureau's current coinmaking capacity.

Adding to the uncertainty of the coinage demand projections is the possibility of changes to the coinage system, particularly to the cent coin. Rising costs of labor and material threaten to make the copper cent obsolete. Further, the cost of manufacture and distribution, the high annual attrition being experienced with the cent, and the steady declining purchase value of the cent, make it likely the coin, regardless of its material content, will become

too costly within the next few years. If the cent is dropped from the coinage system, metal composition is changed, or some other change is made (such as adding a 2-cent coin), coin demand will be significantly changed.

Because of the uncertainty of future requirements, we believe alternatives other than constructing a new, larger mint must be explored to prevent a large expenditure for a new plant which may not be needed or which may be needed for only a limited time. We believe there are alternatives available which the Bureau of the Mint can use to supply higher coin demand if it does occur. These alternatives include

- using all existing production facilities, including the San Francisco Assay Office;
- combining medal and proof coin operations and using saved space to increase production capability;
- upgrading West Point equipment to increase productivity;
- modifying the production area in the Philadelphia Mint to achieve increased production;
- eliminating strip production capability and converting the space to coin production;
- purchasing cent blanks and replacing the blanking presses with coin presses; and
- building inventories of cent coins when capacity exceeds demand to fulfill future demand when it exceeds capacity.

All of these alternatives can be implemented in relatively short leadtimes compared to the time required to design and construct a new mint, which the Bureau estimates to be 4 years.

While we believe there is presently no need to construct a new mint at Denver because of future coin demand, we did look at the physical condition of the current Denver Mint to see if it should be replaced. The officials at the mint have had some engineering tests made on the structure and have found no problems with structural weakness. There are problems with noise levels exceeding desirable limits and the production area is congested with crowded work areas and awkward material flow. A comparison of available space to the Philadelphia coin production area indicates the Denver

Mint should probably reduce its equipment to allow more space and alleviate the excessive noise. While this change could result in loss of some production capacity, it would provide safer, healthier work surroundings for employees.

The cost estimate of \$65 million presented to the Congress with the request to authorize construction of a new mint at Denver is probably overstated. The basic building cost was estimated using the new Philadelphia Mint construction cost as a base. The Philadelphia Mint had, however, several high-cost features which would probably not be required of the Denver Mint construction. Further, the estimated size of the proposed new Denver Mint is overstated by including space that will not be required. The estimate also includes escalation allowances for inflation which overlap the base construction period and are therefore probably overstated.

The construction cost estimate was originally prepared in 1973 when another construction site was being considered. It was updated to reflect some changed conditions, but was not completely reworked as it perhaps should have been.

RECOMMENDATIONS

We recommend to the Secretary of the Treasury that he require the Bureau of the Mint to make a comprehensive study of the various options for increasing production within the Bureau's present facilities, including those options we have presented in this report. The study should result in a plan of implementation to correspond to anticipated future demand. Constant review of coin demand trends will be necessary to keep this plan current.

Since it appears possible that in the future copper prices, manufacturing and distribution costs, and cent attrition rates may rise to a level making the copper cent no longer usable, contingency plans should be developed on what action to take when these increases do occur. We recommend that the Secretary of the Treasury require the Bureau to prepare such contingency plans and also make recommendations concerning the introduction of an intermediate coin, such as a 2-cent coin, to reduce demand for the cent coin. Possible changes to the coinage system also need to be considered in planning for production capacity changes.

We also recommend that the Secretary require the Bureau to study the production facility at Denver and to develop capacity and material flow procedures that will best utilize the space available at this facility and provide safer, healthier working conditions for the mint employees.

AGENCY COMMENTS

On October 14, 1976, the Deputy Assistant Secretary of the Treasury (Operations) furnished comments on this report. (See app. IV.)

The Department of the Treasury stated that a decision needs to be made regarding the future of the existing U.S. coinage system especially as it pertains to the cent. The Department intends to obtain wide public reaction to the possible elimination of the cent before making a decision.

The Department stated that if a decision is made to eliminate the cent coin, a new Denver Mint is not required, and no further action will be taken by the Department on a new mint. However, if the decision is to continue cent production to 1985 and beyond, the Department intends to seek increased, permanent cost-effective production capacity.

The Department believes that the options we outlined to increase the Bureau of the Mint's coinmaking capacity need more examination and refinement as to the increased production they would actually yield and the practicality and cost of implementation. The Bureau of the Mint has started this examination.

The Department believes that the Congress should act favorably on the authorization request for the new mint while it considers the future of the U.S. coinage system and the Bureau of the Mint examines the practicality and the cost of all the options available for increasing its current coinmaking capacity. The Department believes this would provide flexibility by allowing it to proceed on the project should that prove to be the most cost-effective solution. The Department states that the Congress could still retain control over the project through the appropriation review process.

We believe that in light of the uncertainty associated with projecting coin requirements, the possible changes in the coinage system, the moderate increases in production capacity that can be implemented, and the possible increased reliance on contractors, a sizable capital expenditure at this time would be premature.

COPY

BUREAU OF THE MINT COINFORECASTING MODELS (note a)

1. The A. D. Little 1/ Approach: An indirect correlation between cent demand and time was used. In the study completed in 1963 by A. D. Little Company, correlation was shown between time and a mathematical model of coin demand which contained the following variables: cents in circulation, rate of growth of cents in circulation, rate of loss of cents from circulation. A. D. Little considered and rejected correlations between cent demand and various economic variables. Variables considered were sales taxes, vending machine sales, and gross national product. There were two reasons for not using economic variables. First, correlation between them and cent demand appeared no better than correlation with time and, second, the variables themselves were hard to forecast, especially at long-range. A. D. Little employed a very long time-frame (1900-1962). Over the period, cent demand was increasing at 6.8 percent annually. Over the period 1947-1962, A. D. Little found that it had been increasing at 10.2 percent per year. 2/

2. The Morrison 3/ Approach: An indirect correlation between cent demand and economic variables was used. Multiple regression analysis in 1967 produced coefficients for correlating cents in circulation directly and coin demand indirectly with the following parameters: retail sales, sales taxes, consumer price index, and personal consumption expenditures. Coin intensive industry revenues and availability of half dollars were found not to correlate.

3. The Hunter 4/ - Friedman 5/ Approach: Cent demand and time were correlated directly. This was a simple extrapolation of historic demand at historic growth rate over the period 1950 to 1972-3. Hunter used semilogarithmic graph paper; Friedman used linear regression analysis. Friedman forecasted cent demand. Hunter forecasted both cent and total coin demand, excluding the mid-sixties data for total coin demand because of the replacement of silver coins during that period.

a/"One Cent Coinage, A Summary of the 1973-1974 Treasury-Federal Reserve Committee Studies," Department of the Treasury, October, 1974.

4. The Hunter-DeLee Approach: An indirect correlation between total coin demand and time. Demand for all denominations combined (or for any one denomination of interest) can be correlated with a simple mathematical model involving the following variables: demand for cents, and the ratio of demand for cents to demand for all denominations (or to any one denomination of interest). All calculations have assumed that cent demand will comprise a steady 75 percent of total coin demand. Thus, estimated total coin demand equals the estimated cent demand divided by 0.75.

References

1. "Production Facilities for the United States Mint," A. D. Little, Inc. Final Report to the Director of the Bureau of the Budget, February 11, 1963, pp. 21-4, Table B-V.
2. "Working Memorandum No. 7," A. D. Little Report, Case 64904, October 31, 1962, p. 3.
3. "Coin in Circulation," George R. Morrison, Consultant to the Office of Planning and Program Evaluation, Office of the Secretary of the Treasury, June, 1967, pp. 43-56.
4. "Long Range Coin Demand," George E. Hunter, Memorandum to Assistant Director for Technology, Bureau of the Mint, February 8, 1973.
4. "Projection of the Demand for 1¢ Coins," Charles Friedman, Office of Planning and Evaluation, Office of the Secretary of the Treasury, January 16, 1974.

PRODUCTION AND ACTUALDEMAND FOR CENT COINS

<u>Fiscal</u> <u>year</u>	<u>Production</u>	<u>Actual</u> <u>demand</u> <u>(note a)</u>	<u>Production</u> <u>over or</u> <u>under(-)</u>
----- (000,000 omitted) -----			
1954	835	548	287
1955	605	738	-133
1956	1,207	1,253	-46
1957	1,385	1,294	91
1958	1,401	931	470
1959	1,126	1,542	-416
1960	1,981	2,295	-314
1961	2,459	2,256	203
1962	2,545	2,556	-11
1963	2,558	2,559	-1
1964	2,675	2,854	-179
1965	3,715	2,863	852
1966	2,803	3,326	-523
1967	3,617	3,337	280
1968	3,746	4,035	-289
1969	5,345	5,284	61
1970	5,563	5,241	322
1971	5,304	5,298	6
1972	6,201	5,603	598
1973	6,392	6,665	-273
1974	8,354	8,595	-241
1975	10,005	9,422	583
1976	9,210	7,587	1,623

a/Net payout of cents by Federal Reserve Banks was used as an indicator of cent demand since historical data on actual demand for cents was not available.

RESEARCH TRIANGLE INSTITUTE PROJECTIONS OF
ANNUAL COIN REQUIREMENTS (note a)

Year	Present mix (note b)		Option 1 (note c)		Option 2 (note d)		Option 3 (note e)		Total
	Cent	Total	Cent	Total	Cent	Total	Two		
							Cent	Cent	
----- (billions) -----									
1978	12.7	15.3	17.9	20.5	6.0	10.3	4.0	6.0	12.6
1979	14.1	16.8	19.6	22.3	0	4.5	4.0	6.9	13.6
1980	15.6	18.4	20.1	22.9	0	4.6	4.0	7.6	14.4
1981	17.0	19.9	27.6	30.6	0	4.8	4.0	8.5	15.4
1982	19.0	22.0	25.1	28.1	0	5.0	4.0	9.0	16.1
1983	20.5	23.7	28.8	32.0	0	5.2	4.0	10.3	17.5
1984	22.0	25.3	24.9	28.2	0	5.4	4.0	10.9	18.2
1985	24.9	28.2	28.1	31.5	0	5.6	4.0	11.7	19.1
1986	26.0	29.5	31.3	34.8	0	5.7	4.0	13.4	20.9
1987	29.5	33.1	33.0	36.6	0	5.9	4.0	13.6	21.2
1988	32.0	35.7	37.6	41.3	0	6.1	6.1	14.6	24.4
1989	35.0	38.8	40.9	44.7	0	6.1	8.1	14.7	26.6
1990	37.6	41.5	45.1	49.0	0	6.3	9.1	15.9	28.9
Total	305.9	348.2	380.0	422.5	6.0	75.5	63.3	143.1	248.9

a/The various alternatives presented are based on the same data used by RTI to compute its estimate of coin requirements as previously discussed beginning on page 9.

b/Includes the 95-percent copper - 5-percent zinc cent.

c/Change the composition of the cent to aluminum.

d/Eliminate the cent.

e/Introduce a 2-cent coin to cocirculate with the cent.



DEPARTMENT OF THE TREASURY

WASHINGTON DC 20220

DEPUTY ASSISTANT SECRETARY

OCT 14 1976

Dear Mr. Lowe:

We appreciate the opportunity to comment on your draft report entitled "Review of the Need for a New Denver Mint," GAO assignment code number 947229, which was forwarded to the Secretary of the Treasury by your letter of September 16, 1976. The Treasury Department values having the benefit of the study and analysis performed by the GAO team, although it believes some of the findings should be corrected and some of the action recommendations modified.

The principal conclusion of the report is that various operating changes within existing facilities would enable the Mint to meet "realistic" coinage requirements without construction of a new mint. Before this can become a basis for an operational decision by the Bureau of the Mint, we believe two aspects need more thorough analysis.

First, as the GAO report recognizes, the primary mission of the Bureau of the Mint is to produce the media of exchange required to support the commercial activities of the people of the United States. Since a shortage of coins would seriously inhibit these commercial activities, the Mint must plan to maintain sufficient coinage capacity to provide an additional reserve capability to cover the eventuality of the higher ranges of forecast demand. The need for this conservative approach is accentuated by the long lead time required to obtain Congressional authorization and appropriations, and then to design, construct and equip new plant capacity.

As discussed in your report, we are, indeed, faced at this time with a dilemma regarding the penny. If a decision is made by the Congress to eliminate the penny and adopt the nickel as the lowest denomination within a relatively short time frame, then a new Denver Mint is not needed. The Treasury intends to obtain wider public reaction to such a proposal, complete analysis of the various alternatives and arrive at recommended changes, if any, to present to the next Congress. However, public resistance to change may preclude elimination of the penny. Therefore, pending a definitive determination, the only prudent course is to proceed with all steps short of obligation of funds to ensure adequate production capacity for the 1980's.

-2-

The GAO report contains considerable discussion pertaining to the matter of forecasting coinage demand. However, both the General Accounting Office and this office agree that forecasting future requirements cannot be done with complete certainty and that by 1980 demand will exceed the current production capacity of the Bureau of the Mint as presently operated.

This leads to the second major consideration. The report proposes eight changes in operation of the mints which allegedly would increase the production capacity of present facilities. Without question, existing facilities should be fully utilized before embarking on major construction and equipment programs. Indeed, the Mint has for some time been following this approach, sometimes requiring improvisation, in order to keep capacity ahead of demand. For the long term, however, total cost-effectiveness of both capital expenditures and operating efficiency is of paramount importance when conducting "expansion vs. new facility" trade-offs. The changes recommended by GAO need more examination and refinement, both as to the increased production they would actually yield and the practicality and cost of implementation. Among the costs needing exploration are the diminished operating efficiencies from overcrowding, the personnel costs from failure to meet OSHA standards, and the potential increase in materials costs from elimination of the gauge of an in-house strip production operation. The Bureau of the Mint will thoroughly analyze and consider the validity of the changes recommended by GAO from the viewpoint of total long-term effectiveness.

The enclosed comments cover factual corrections (Enclosure 1) and present more detailed observations and preliminary findings on the various chapters of the GAO report (Enclosure 2).

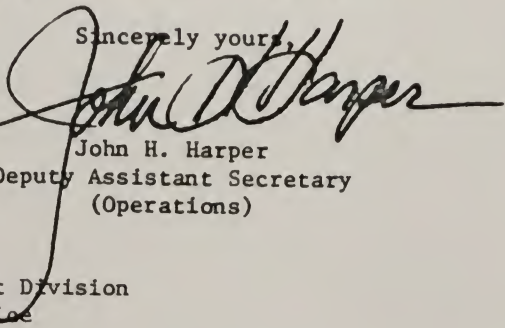
[See GAO note 1, p. 46.]

In conclusion, we believe we are approaching the time for decisions which will impact the U.S. coinage system significantly. If the decision is for no more penny production, a new Denver Mint is not required, and no further action will be taken by the Department on this project. If the decision is to continue penny production to 1985 and beyond, we must proceed to implement permanent cost-effective capacity to meet projected demand. We believe Congress should act favorably on our authorization request for the new mint. This would provide flexibility by allowing us to proceed expeditiously on the project should it prove to be the most cost-effective solution. At the same time, the Congress would retain control over the project through the appropriation request review process.

-3-

After reviewing our reply to your draft report, should you desire further amplification or discussion, please contact my office. We look forward to receiving a copy of your final report.

Sincerely yours,



John H. Harper
Deputy Assistant Secretary
(Operations)

Mr. Victor L. Lowe
Director, General Government Division
U.S. General Accounting Office
Washington, DC 20548

Enclosures

GAO Note:

1. Enclosures 1 and 2 have been omitted, but the comments have been considered where appropriate.

PRINCIPAL OFFICIALS OF
THE DEPARTMENT OF THE TREASURY
RESPONSIBLE FOR ADMINISTERING THE ACTIVITIES
DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
SECRETARY OF THE TREASURY:		
William E. Simon	May 1974	Present
George B. Shultz	June 1972	May 1974
John B. Connally	Feb. 1971	June 1972
David M. Kennedy	Jan. 1961	Feb. 1971
DIRECTOR, BUREAU OF THE MINT:		
Mary T. Brooks	Sept. 1969	Present

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15 days subsequently to
make decision on site -
then first statement
Be - chosen site
(End of year before
final decision)

CONSTRUCTION OF NEW UNITED STATES MINT
DENVER, COLORADO

Draft Revised Environmental Impact Statement

Prepared by

Bureau of the Mint
Department of the Treasury
Denver Mint
320 West Colfax Avenue
Denver, Colorado 80204

February 27, 1974

Prepared for

U. S. Department of the Treasury
Main Treasury Building
Washington, D. C. 20220

NEW UNITED STATES MINT
DENVER, COLORADO

(X) Draft

() Final Environmental Statement

Responsible Office: Bureau of the Mint
Treasury Department, Washington, D. C.
For additional information contact:
Frank W. Rhea
Denver Mint, 320 West Colfax Avenue
Denver, Colorado 80204
Telephone: (303) 837-4556

1. Name of Action: (X) Administrative Action () Legislative Action

2. Description of Action: Construction of a combination of high-bay, one-story buildings and multistory support/administrative buildings, all comprising the new Denver Mint. Auxiliary construction would consist of parking areas, paved vehicle maneuvering areas, all necessary utilities and landscaping. Total gross building space would be about 700,000 square feet. The Treasury Department is considering two possible sites, without favoring either location until comments on the proposed action have been received and evaluated. The two sites are (1) the northwest corner of the Park Hill Golf Course in Denver, and (2) the northwest corner of the Denver Federal Center in Lakewood. The State of Colorado, the City and County of Denver, the City of Lakewood and Jefferson County would be affected by this proposed action. The proposal would assure the required production of high quality coins for the United States.

3. Summary of Environmental Impacts and Adverse Environmental Effects:

The proposed facility should provide an appropriate and beneficial use of either potential site. Adverse environmental impacts of the proposal are (1) the increase in automotive traffic which its operation will bring to the areas, (2) the additions of stationary source and vehicle-generated air pollutants, and (3) the various short-term impacts during the construction period.

4. Major Alternatives Considered:

- a. Continuation of the operation of the present Denver Mint without constructing a new facility.
- b. Construction of a new mint at some other location.

5. Comments Requested From:

Environmental Protection Agency
Department of Agriculture
Department of the Army, Corps of Engineers
Department of Commerce
Department of Health, Education and Welfare
Department of Housing and Urban Development
Department of the Interior
Department of Transportation
Advisory Council on Historic Preservation
General Services Administration
Office of Economic Opportunity
State of Colorado Division of Commerce and Development
State of Colorado Department of Health
State of Colorado Department of Highways
State of Colorado Division of Wildlife
State Historical Society of Colorado
Denver Regional Council of Governments (Regional Clearing House)
Regional Transportation District
Metropolitan Denver Sewage Disposal District Number One
Urban Drainage and Flood Control District
City and County of Denver
Colorado Water Conservation Board
Board of Water Commissioners, City and County of Denver
City of Lakewood
Jefferson County
Rocky Mountain Center on Environment
Colorado Federation of Women's Clubs
Greater Park Hill Community Inc.
Park Hill Improvement Association
Thorne Ecological Institute

6. Draft statement made available to the Council on Environmental Quality and the public on February 27, 1974.

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DRAFT REVISED ENVIRONMENTAL IMPACT STATEMENT
NEW UNITED STATES MINT
DENVER, COLORADO

1. Description of the Proposed Action.

1.1 Project Description.

It is proposed to construct a new mint to assure production of high quality coins in sufficient quantities to meet the requirements of the people of the United States.

In a study completed in May of 1969, the Treasury Department concluded that the total demand for domestic coins in 1980 would be 12 billion coins per year. More recent studies and projections indicate that the total demand by 1980 may be as high as 18 billion coins per year. Production capacities of the existing mints at Philadelphia and Denver, and the Assay Office in San Francisco, fall far short of the 1980 coin requirements. A new mint will be required with a capacity of approximately 10.5 billion coins per year by 1980. Building space and outside areas in the present United States Mint institutions, including the present Denver Mint, which has a capacity of about 4.0 billion coins per year, are saturated, and it is not feasible to expand these facilities.

The proposed new mint would have the mission of producing domestic coins ranging in denomination from 1¢ to \$1, plus some production of foreign coins, proof coins and medals. It is the intent of the Treasury Department that the new mint would perform essentially all functions involved in coin production, starting with the receipt of virgin metal and proceeding through the process steps to the production, storage and shipment of finished coins and medals. Necessary administrative and production support space and facilities are to be included in the mint, including a tourists' observation gallery.

The following specific functions/space requirements are planned for inclusion in the new mint:

a. Basic Functions

Melting and casting of various metals and metal alloys, ingot hot rolling, scarfing, strip intermediate rolling, strip finish rolling, strip slitting, blanking, blank annealing and cleaning, upsetting, coining, counting and bagging, packaging in the case of proof coins and medals, and coin storage.

b. Direct Support Functions

Assay and quality control, die production from the hub stage, building and production equipment maintenance and repair, shipping and receiving (coinage metal, coins and supplies) and warehousing.

c. Administrative Support Functions

Mint Staff (Superintendent, Deputy Superintendent, Accounting, Automatic Data Processing, Personnel, Supply and Purchasing, Safety and Security), visitors' gallery, numismatic sales, cafeteria, conference rooms and training areas, vehicle parking (employees and visitors), and other miscellaneous office space.

Current planning for the new mint is based on completion of both construction and installation of production equipment by mid-1979. After a phase-in operational period, and relocation of equipment, furniture, supplies and personnel from the present Denver Mint, full operation of the new mint is planned to commence in early 1980.

The present Denver Mint is listed in the National Register of Historic Places. The use of this historic landmark after completion of the new mint cannot be determined finally at this time, but it is visualized that it would continue in public use, either for the Federal Government or for the City and County of Denver. In any event, the provisions of Executive Order 11593 of May 13, 1971 will be applied with respect to this National Register property.

// The new mint is being planned for year 1980 production capacity of 10.5 billion domestic coins per year and 25 million proof coins and medals per year, on the basis of operating the facility 3 shifts per day, 5 days per week, 240 days per year. The new mint would be designed and constructed to provide space for expansion of critical operations and to provide for reasonable expandability of the entire facility to accommodate increased production requirements as they develop in future years.

Detailed design of the new facility has not been started at this date. However, based upon careful analysis of the functions to be performed and required capacities of the various production processes, the following definitions of the scope of the proposed new mint have been determined:

- //
- (1) A site consisting of a minimum of 30 acres.
 - (2) Building space of approximately 700,000 square feet.

It is proposed to design and construct a new mint which would provide structures and surrounding grounds that reflect the importance and dignity of the special function of the United States Government to be performed in the facility, would be in harmony with and enhance the area where it is located, and would provide for the important tourist aspects of the facility.

At this time the Treasury Department is proposing two alternative sites for the new mint, without favoring either location until

comments on the proposed action have been received and evaluated. The two proposed alternative sites are:

Site A - The northwest corner of the Park Hill Golf Course in the City of Denver, near the intersection of Colorado Boulevard and Smith Road. (See attached map, Appendix A, and attached aerial photograph, Appendix B.)

Site B - The northwest corner of the Denver Federal Center in the City of Lakewood, near the intersection of Union Street and the West Sixth Avenue Freeway. (See attached map, Appendix C, and attached aerial photograph, Appendix D.)

The proposed sites would supersede the previously selected site along the west bank of the South Platte River, extending from about 18th Avenue to Speer Boulevard. The South Platte site was discussed in detail in a Final Environmental Impact Statement dated February 2, 1973. This site has been abandoned because of the incompatibility of having the new mint on a long, narrow strip of land immediately adjacent to the mainline north-south railroad trackage through Denver, which the Burlington Northern Railroad Company plans to construct on the west bank of this reach of the South Platte River. Due to the size of the proposed mint structures and constricted width in the center portion of the site, the layout of the mint on this property would require large building complexes at the two end portions of the area, with about 1,000 feet of open space in between. This situation, coupled with the planned raised grade of the railroad tracks to avoid potential South Platte River floods, would make the frequent heavy train traffic highly apparent to the many public visitors (approximately 250,000 per year at the present mint), to the mint personnel themselves, as well as from surrounding areas. This environmental condition would be completely out of harmony with the envisaged new mint, which is being planned to serve as an important tourist attraction and to reflect the importance and dignity of the United States Government coinage operations that would be performed in the facility. The Treasury Department had no knowledge of plans to place mainline railroad trackage in such close proximity to the mint property until October 1973, long after the formal South Platte site agreement between the City of Denver and the United States Government was signed on May 24, 1973. In addition, air pollution problems, related to this site, have developed since the original Environmental Impact Statement was prepared. These air pollution problems are similar in nature and magnitude to those for the Park Hill Golf Course site as discussed in paragraph 3.2b herein.

Authority for the construction of a new mint at Denver is contained in 31 U. S. Code 261 and 291.

1.2 The Existing Environmental Setting of the Proposed Sites.

a. Site A - Park Hill Golf Course

The proposed site consists of about 35 acres located in the northwest corner of the Park Hill Golf Course at the intersection of Colorado Boulevard and Smith Road. The area is a portion of Clayton Trust land controlled by the Mayor of Denver and the Denver City Council as trustees. The proposed site is about 4 miles northeast of the Denver Central Business District. Presently the site is occupied by the Park Hill Golf Course. In order to provide the planned space for the new mint buildings and grounds, eight golf holes would have to be relocated to the currently vacant portions of the Clayton Trust Park Hill property. If this site is selected, the City of Denver plans to rebuild the golf holes affected so that there would be no time lost in availability of the 18-hole course for area golfers.¹

A rail line is near this proposed site, to the north of Smith Road. A spur track, crossing Smith Road at grade, could be brought into the proposed site to provide for rail service to the mint. Smith Road is lightly traveled and is crossed by similar tracks in the vicinity. The availability of the spur would be advantageous, as it is desirable to have rail access for delivery and shipment of large tonnages of metal, coin blanks, coins and metal scrap.

Road access to the site is available from Colorado Boulevard at 40th Street, and from Smith Road at approximately 1,400 feet to the east of Colorado Boulevard. Connections and adequate intersections exist for north-south traffic on Colorado Boulevard and east-west traffic on Interstate 70. The intersection of these two main arteries is a clover-leaf, about 1,800 feet to the north of the proposed site.

This proposed area is now landscaped as a golf course. In general, the land is a gently sloping area that would be suitable for both construction and drainage. There are no historic resources nor historic places which would be affected by the proposed project.

1 Letter from the Mayor of the City and County of Denver to Frank W. Rhea dated February 12, 1974.

A copy of each document referred to in this Statement may be consulted by any interested person at the Office of the Bureau of the Mint Facilities Project Manager, Denver Mint, 320 West Colfax Avenue, Denver, Colorado 80204.

To the north of the proposed site, across Smith Road and the railroad, is an industrial and warehousing area. The buildings are relatively new and barely visible from the proposed mint site. To the west is a combination industrial and residential area. This area is rather widely separated from the mint site by Colorado Boulevard. The area to the east and south of the proposed site would continue to be used for the Park Hill Golf Course. This open recreational area would separate the mint site from the light industrial complex to the east of Dahlia Street and the residential area in the vicinity of Dahlia Street and 35th Avenue.

Electric power, gas, water and sewer lines are available nearby. There are no existing utilities to be removed nor relocated to make the site usable. It would, however, be necessary to construct a heating plant for the new mint at this site.

The proposed site is well drained and is not subject to flooding nor a high water table. The area is generally one of low, rolling hills composed of sand with some clay. The bearing characteristics of the soil are generally good; however, fairly extensive spread footing and drilled pier foundations would be required to provide adequate foundations for the buildings envisaged.

Public transportation to this proposed site is now provided by the Denver Metro System. A main bus line runs north and south on Colorado Boulevard. Necessary transfer points are available to other bus lines. Plans for a new rail Personalized Rapid Transit System prepared by the Regional Transportation District include a main station at Colorado Boulevard and Colfax Avenue.² Transportation would be by bus from this point to the proposed site, a distance of about 2 miles.

11 The climatic environment of the proposed site is generally considered excellent. Precipitation is 10 to 15 inches per year, and the average relative humidity is about 40 percent. This site is relatively unfavorable from a meteorological and air pollution point of view. Further discussion of this matter is contained in the probable environmental impact section of this statement.

Wildlife species in the area are negligible. There would be sufficient remaining open land in the Golf Course area to provide habitat for any life forms affected.

2 A Public Transportation Plan for Colorado's Regional Transportation District, Summary Report, March 1973.

b. Site B - Denver Federal Center

The proposed site consists of about 35 acres located in the northwest corner of the Denver Federal Center, a Government-owned installation under the control and jurisdiction of the General Services Administration. Within the Federal Center are numerous office and laboratory buildings, housing various Federal Government activities, and a large Federal Supply Warehouse located along Alameda Avenue. The proposed site, which is approximately 8 miles west of the Denver Central Business District, is in Lakewood and is adjacent to Union Street to the west and the West Sixth Avenue Freeway to the north. Presently on the site are some obsolete storage and other small buildings, all of which would be removed to provide for the new mint.

A rail spur enters the Denver Federal Center from the north and passes within 300 feet of the proposed mint site. This would be advantageous, as it is desirable to have rail access to the mint buildings for delivery and shipment of large tonnages of metal, coin blanks, coins and metal scrap.

Highway access to the site is available from Union Street via North Avenue and from within the Federal Center itself, which also has road access from Kipling Street and from West Alameda Avenue. The North Avenue access would be used exclusively for mint traffic (employees, tourists and commercial), as the mint area would be physically separated from the remainder of the Federal Center by security fencing. A new access from Union Street for other Federal Center traffic would be provided at West Second Place, about the mid-point between Sixth Avenue and Alameda Avenue. Connections to the Sixth Avenue Freeway exist at Union Street and at Kipling Street.

There is no appreciable landscaping nor plant growth in the proposed area. The area is generally vacant open land, except for the existing storage buildings which are to be removed. There are no historic resources nor historic places which would be affected by the proposed project.

To the north of the proposed site, across the Sixth Avenue Freeway, are several recently constructed commercial buildings. To the west are office buildings, a tennis facility, residential buildings and a commercial office and shopping area under development.

Electric power, gas, water and sewer lines are available within the Federal Center, but there are no utilities to be removed nor relocated to make the site usable. Sufficient capacity is available from the existing central heating plant to provide steam for heating the proposed mint structures.

The proposed site is well drained and is not subject to flooding nor a high water table. The substrata in the area are stiff to very stiff clay and a sandy clay. Bedrock should be encountered from 8

to 15 feet below the surface, thus building foundation conditions are considered to be very satisfactory.

Public transportation into the Federal Center grounds is now provided by busses of Denver Metro Transit, using West Alameda and Kipling Street. Plans for the new rail Personalized Rapid Transit System prepared by the Regional Transportation District include service to the Federal Center, with a main station planned on Union Street between Alameda Avenue and Sixth Avenue. There are presently about 6,500 employees at the Center. Thus, the Mint's approximately 800 employees would be joining with an existing base for public transportation.

The climatic environment of the proposed site is generally the same as the City of Denver (Platte River Basin), which is considered to be excellent. Precipitation is 10 to 15 inches per year, and the relative humidity averages about 40 percent. The proposed site is relatively favorable from a meteorological point of view, as it is several miles away from the current concentration of vehicular and industrial air pollutants in the central Denver area.

Wildlife species in the area are negligible, consisting primarily of some birds, mice and rabbits. There would be sufficient open land to provide habitat for these life forms.

2. Relationship to Land Use Plans, Policies and Controls for the Affected Area.

a. Site A - Park Hill Golf Course

It is considered that construction of a new mint on the Park Hill site would be in harmony with Federal, State, and City land use plans, policies and controls for the affected area. The site in question is designated as park or open space on the land use plan of the Denver Regional Council of Governments.³ However, the latest City of Denver land use plan⁴ shows approximately three-fourths of the site as industrial space and one-fourth as park or open space. By Resolution Number 6, passed by the Council on January 28, 1974, and approved by the Mayor on January 29, 1974, the Council of the City and County of Denver urged Mrs. Mary Brooks, Director of the Bureau of the Mint, to select the Park Hill Golf Course site for the location of the new Denver Mint.⁵ The new mint buildings and the surrounding landscaped areas, in conjunction with the adjacent golf course open area, should add to the aesthetics of the locality. The proposed project is compatible with the commercial and industrial activities to the north and east. Road and rail access into the north side of the site could

3 Regional Land Use, Highway and Public Transportation Plans, Denver Region, Regional Council of Governments, Summary Report, October 1973.

4 Denver 1985, A Comprehensive Plan for Community Excellence, Denver Planning Office, January 1971.

5 Resolution No. 6, Series of 1974. Introduced by the entire Council. A resolution urging Mint Director Mary Brooks to keep the Mint within the City and County of Denver.

be accomplished so as to minimize, if not completely eliminate, any adverse visual impact to the residents in the area. Reconstruction of the golf course in the open area on the east side of the Clayton Trust property could be accomplished before mint construction commences (projected for late 1975) so that there would be no interruption in availability of golf course facilities. There is another major park, the Denver City Park, including a municipal golf course, about two miles south of the proposed site. The proposal would not involve displacement of residences nor commercial enterprises.

It is believed, on balance, that locating the new mint at this proposed site would constitute a proper and beneficial land use.

b. Site B - Denver Federal Center

Construction of a new mint on the proposed site is considered to be in harmony with known Federal, State and local land use plans, policies and controls for the affected area. The mint buildings proposed for the project would replace the existing small storage buildings on the site. The mint buildings, and the activities to be performed therein, are compatible with the other Federal structures and activities presently located at the Federal Center and are consistent with long-range plans for development of this Federal installation. The new mint buildings and surrounding landscaped areas should complement the Federal Center facilities and the adjacent commercial and private developments to the west and to the north.

Location of the mint on this site would avoid the necessity of taking additional land for Federal uses away from the private or local government sector. There would be no displacement of families nor commercial enterprises.

The areas to the west of the proposed site and to the north, across Sixth Avenue, are zoned E72-77, Commercial, under the current approved zoning plan of the City of Lakewood. The Federal Center property acts as a buffer between the proposed site and areas to the south and to the east.

The mint activity at this location would be consistent with land use plans of the Denver Regional Council of Governments, which designate the entire Federal Center as a major activity center, and with the recently published "CONCEPT:LAKEWOOD", a draft comprehensive plan for the future development of Lakewood.⁶

It is believed, on balance, that locating the new mint at this proposed site would be a beneficial land use in conformance with plans, policies and controls for the affected area.

⁶ CONCEPT:LAKEWOOD, November 1973. A Comprehensive Plan for the City of Lakewood. Final Draft for community consideration.

3. The Probable Impact of the Proposed Action on the Environment.

The construction of a new mint on either of the proposed sites would have some effects on the environment. The environmental impacts divide between those involved with the use and operation of the completed facility and those relatively shorter-range impacts specific to the construction period. A discussion of the probable effects follows:

3.1 Transportation of Materials, Employees and Visitors into and out of the Facility.

a. Introduction

These introductory remarks pertain to both proposed sites. A new mint at either location would produce additional automotive traffic loads in the specific site vicinity and in the Denver metropolitan area in general. The new mint would have approximately 800 employees, as compared to 461 employees presently working at the Denver Mint. Of the 461 current employees, 11 percent reside within a 2-mile radius of the existing mint, 50 percent within a 5-mile radius, and 80 percent within a 10-mile radius. After several years of operational status of the mint, it is expected that this residence pattern would be generally applicable to the proposed new locations, with some adjustment due to housing area locations as discussed below for each site. Presently, there are about 285 private automobiles used daily by employees in getting to and from work. These automobiles travel an average one-way distance of 6 miles, for a total daily vehicle miles traveled of 3,420.

For either location the additional traffic loads would consist of employee automobiles, commercial vehicles servicing the mint, and tourists' private automobiles and busses. Based on 1973 patterns of use of transportation modes and systems, the traffic load for mint employees' private automobiles would be approximately 125 cars inbound and 125 cars outbound during each shift change (presently 7 A.M., 3 P.M., and 11 P.M.), 70 cars inbound at about 8 A.M. and 70 cars outbound at about 4:30 P.M. It is expected that the number of employee automobile trips will decrease with improvements in public transportation systems and the continuing State and Federal programs to reduce vehicle miles traveled in the Denver area. Shift changes could be adjusted to avoid peak traffic periods in the site vicinity and the Denver metropolitan area in general, or alternatively, to provide for better accommodation with public transportation schedules as they are developed and expanded. The 20 daily average commercial vehicle trips in and out of the facility would be scheduled to the maximum extent feasible to avoid rush-hour traffic. The tourist traffic, averaging an estimated 200 cars and 5 busses daily, would occur in the middle portion of the day and thus would naturally avoid peak periods. Mint traffic would terminate in its own parking areas and would not add to parking congestion in the site vicinity. There would be separate parking areas for visitors and for mint employees.

b. Site A - Park Hill Golf Course

While the overall road network in the vicinity of this site is excellent, the additional traffic generated by the mint would tend to coincide with the direction of existing traffic and would add to existing congested conditions on Colorado Boulevard and on I-70. In 1971 (the latest year figures are available from the Colorado State Highway Department) average daily traffic on Colorado Boulevard adjacent to the site was 29,800 vehicles and on I-70 at the Colorado Boulevard intersection was 58,700 vehicles.⁷ Both of these arteries are saturated during peak traffic periods. Mint employee traffic would add 900 one-way trips at the immediate site location, if 1973 usage patterns are continued. As indicated above, mint traffic would be scheduled to avoid peak periods. Tourist traffic would add an average of 410 one-way trips daily.

This site is presently served by Denver Metro Transit busses operating on Colorado Boulevard, and it is expected that this service will be expanded and bus frequency increased, in accordance with the Summary Report issued in March 1973 by the Regional Transportation District.⁸ With respect to the rail based Personalized Rapid Transit System planned by the Regional Transportation District, the closest service would be on the Colfax Avenue line at the intersection of Colfax Avenue and Colorado Boulevard.⁹ Employees and visitors would have to transfer to busses at this point to proceed the remaining approximate 2 miles to the mint.

The mint-generated traffic would effect a net addition in vehicle miles traveled (VMT) in the Denver area. The total VMT would be centered generally in a circular pattern around the mint, with the maximum traffic concentration occurring in the immediate site area.

On the basis of housing availability locations and experience with respect to the present Denver Mint, it is expected that after several years of mint operations at this site, the center of gravity of mint employee residences would be about 2 miles to the southwest towards the City core. On this basis, the net daily additional VMT for the Park Hill site is estimated as follows:

900 one-way trips x 6 miles (average employee travel distance to center of gravity)	=	5,400
900 x 2 miles (center of gravity to mint site)	=	<u>1,800</u>
		7,200
Minus VMT for current operation at the existing Denver Mint		
	-	<u>3,420</u>
Net additional VMT		3,780

7 Letter, Colorado State Department of Highways to the Treasury Department, February 11, 1974.

8 A Public Transportation Plan for Colorado's Regional Transportation District, Summary Report, March 1973.

9 Ibid.

It is considered that this is a maximum figure and that with increased development and use of public transportation systems the net additional VMT would be reduced appreciably for this site, as well as for the Denver Federal Center site.

c. Site B - Denver Federal Center

The overall road network in this area is excellent, with access available to the Federal Center from Sixth Avenue, Alameda Avenue, Kipling Street and Union Street. The mint daily traffic of 900 employee one-way trips and 410 tourist one-way trips would add to existing loads on the access routes, which had daily averages as follows in 1971, according to State Highway Department counts: 10

Sixth Avenue west of Kipling	32,200
Kipling south of Sixth Avenue	21,000
Union south of Sixth Avenue	15,700
Alameda west of Kipling	12,000

Union Street is currently being reconstructed to provide expansion from two to six lanes along the proposed mint portion of the Federal Center, so that existing peak-hour congestion on this route should be reduced.

The mint employee traffic generally would be counterdirectional to the mass of rush-hour movements, which are City-center oriented in the mornings and outbound oriented in the afternoons. The Regional Transportation District's plans call for service to the Federal Center by the Personalized Rapid Transit System, with a main station on Union Street between Alameda and the Sixth Avenue Freeway. Also, the total Federal Center employee population, in excess of 6,000, serves as a good base to justify early development of improved public bus systems, to the end that there might be reductions in employee use of private automobiles.

For this proposed location, it is expected, on the same bases as mentioned above for the Park Hill site, that after several years of operation the center of gravity of mint employee residences would be half-way between the site and the City core, or about 4 miles to the east of the proposed site. Similar to the discussion for Park Hill, the net daily additional vehicle miles traveled is estimated as follows:

900 one-way trips x 6 miles (average distance to center of gravity)	=	5,400
900 x 4 miles (center of gravity to mint site)	=	<u>3,600</u>
		9,000
Minus current VMT	-	<u>3,420</u>
Net additional VMT		5,580

10 Letter, Colorado State Department of Highways to the Treasury Department, February 11, 1974.

3.2 Potential Pollution - Air, Water, Solid Wastes and Noise.

a. General

Due to the nature of the industrial operations planned to be performed in the new mint, there are several potential pollution problems associated with the construction and operation of the facility. These potential problems are similar for both of the proposed locations. All of these potential problems will be analyzed in great detail during the design of the new mint by the architect-engineer. None of these problems are excessive to the point of requiring new state-of-the-art equipment and systems, but each must receive special attention. It is the intent of the Treasury Department that the new mint would be designed and constructed to comply with the letter and spirit of all local, State and Federal laws and regulations pertaining to the prevention of air, water, and noise pollution and solid wastes disposal. In this regard, it is intended that the new mint would be provided with the most modern and efficient pollution measurement and prevention systems and equipment available so that the plant would serve as a model in the field of pollution prevention and control. Upon completion of the preparation of the plans and specifications for the proposed facility, they will be submitted to the Environmental Protection Agency for review, so that that agency can assure that the specifically designed pollution control systems and equipment will comply with the provisions of Executive Order 11752, dated December 17, 1973.

b. Air Pollution - Stationary Source and Motor-Vehicle Generated

The new mint would generate some fumes from its metal melting and casting operations, from strip rolling and finishing and from blank annealing and cleaning. It is planned to install fume collection systems, employing hoods and ductwork, and to cleanse all fumes from the industrial operations using electronic precipitators, cyclone centrifuges, filters and scrubbers. Specific equipment, which will be designed for near zero air pollution emissions, will insure that extruded air meets or exceeds all local, State and Federal standards for air quality. Similar, but older, models of the types of equipment involved are installed in the Philadelphia Mint and the present Denver Mint and are functioning adequately in meeting air quality standards. With this installed equipment, it is considered that air pollution effects from the industrial operations would be negligible.

The same negligible effects generally would be true for any potential stationary source air pollution from the facility heating plant. At the Denver Federal Center there is sufficient capacity available in the existing central heating plant to serve the proposed Mint. The Denver Federal Center boilers are capable of burning natural gas, No. 2 fuel oil and coal. In 1973 these boilers were tested and found in compliance with current State and Federal clean air emission standards while burning gas, fuel oil and high grade coal. However, in light of the current and long-range energy situation and air quality standards, the General Services

Administration is in the process of having a detailed engineering study made on available fuel sources in respect to environmental considerations to determine the best fuel(s) to be used at the Denver Federal Center. If clean fuels are not available in the future for operation of this heating plant, it may be necessary for the General Services Administration to install some type of precipitators or filters in the plant smokestacks. In any event, by the scheduled date of 1980 for the new Mint to be fully operational, full compliance of this facility with Federal and Colorado Clean Air Standards is planned. At Park Hill, it would be necessary to construct a heating plant for the new Mint only, which would be fired with relatively clean fuels if available. If not, precipitators would be installed in the smokestacks and the emissions would be comparable in quality and quantity to those caused if the mint load were added to the central plant of the Federal Center.

In addition to the stationary source pollutants, motor vehicle pollutants would be generated throughout the Denver metropolitan area by the net additional vehicle miles traveled of 3,780 for the Park Hill site and 5,580 miles for the Federal Center site. In each case, the additional VMT would be at maximum levels in the immediate mint vicinity and would radiate in a generally circular pattern to a distance in excess of 10 miles.

Analysis and evaluation of the relative significance of the additional air pollution for the two proposed sites should be done in consideration of current levels of pollution and in consideration of on-going programs to improve air quality in the Denver area. The following data on ambient air quality are from "Statistical Analysis of Air Quality Data 1970, Suspended Particulates", published by the Colorado Department of Health, Air Pollution Control Division, on March 14, 1972:

"Statistical Analysis of Ambient Air Quality Data
Pollutant: Suspended Particulates
Unit: Micrograms Per Cubic Meter
Year: 1970

<u>Station</u>	<u>Quarter</u>	<u>No. Samples</u>	<u>Arithmetic Mean</u>	<u>Minimum/Maximum</u>
Lakewood	1	24	80	30/211
	2	27	67	15/149
	3	24	55	21/168
	4	20	70	30/109
	Total	95	68	15/211
School Admin. Building	1	23	149	74/255
	2	24	100	66/181
	3	23	98	40/189
	4	20	122	43/229
	Total	90	117	40/255 "

The Lakewood station is representative of air quality conditions at the proposed Federal Center site. The School Administration Building station is representative of air quality conditions at the proposed Park Hill site. The State of Colorado's long-term standard is an annual arithmetic mean of 70 micrograms per cubic meter of suspended particulates, and a short-term standard of a 24-hour maximum of 200 micrograms per cubic meter which is not to be exceeded more than once in a 12-month period.¹¹

The following is an extract from a notice of final rule making, dated October 25, 1973, by the Administrator of the Environmental Protection Agency, relative to the Colorado Transportation Control Plan, published in the Federal Register, Volume 38, No. 214 - Wednesday, November 7, 1973, beginning on page 30818.

"Title 40 - Protection of Environment
CHAPTER 1 - ENVIRONMENTAL PROTECTION AGENCY
Subchapter C - Air Programs
Part 52 - Approval and Promulgation of Implementation Plans
Colorado Transportation Control Plan
.

SUMMARY OF THE TRANSPORTATION CONTROL PLAN

Table I summarizes the Colorado and EPA control strategy effects in tons per year of carbon monoxide and hydrocarbons in the demonstration areas listed in the Colorado plan. The demonstration areas are the CBD for carbon monoxide emissions and Denver and Adams Counties for emissions of hydrocarbons.

Table I - Compilation of control strategy effects on
carbon monoxide and hydrocarbon emissions.
(Tons per year)

(NOTE: This table, showing effects of the proposed State and EPA strategies in tons per year of carbon monoxide and hydrocarbons, has been omitted from this statement because Table II, extracted in full herein, shows the same effects in percentage reductions from 1971 emissions.)

11 Statistical Analyses of Air Quality Data, 1970, Suspended Particulates, Colorado Department of Health, Air Pollution Control Division, March 14, 1972, pp. 4-5.

Table II - Effect of Colorado and EPA Strategies by 1977

Strategies	Percent reductions from 1971 emissions	
	CO	HC
State strategies:		
1. Federal motor vehicle control program..	31	23.0
2. Inspection/maintenance.....	7	2.5
3. Air bleed.....	4	1.0
4. High altitude modifications.....	10	2.5
5. VMT reductions.....	6	5.0
a. Bus/carpool lanes.		
b. Parking lot construction limitations.		
c. Limitation of on-street parking in the core area.		
d. Mass transit improvements.		
EPA regulations:		
6. Stationary hydrocarbon control.....		24.0
7. Gasoline limitation.....	6	5.0
Total reduction.....	64	63.0
Reduction required.....	64	60.0

As shown in Tables I and II, the EPA and State regulations ensure attainment of the national ambient air quality standards for carbon monoxide and photochemical oxidants (hydrocarbons) by May 31, 1977."

Table II above shows that reductions in VMT from 1971 levels will be required in the demonstration areas in the amount of 12 percent for carbon monoxide emissions and 10 percent for hydrocarbon emissions. As the Park Hill site is in both demonstration areas, the net additional VMT caused by mint traffic, although minor in comparative scope, would be counter to the State of Colorado and Environmental Protection Agency programs to improve air quality in the areas adjacent to this proposed site.

Although the net additional VMT caused by mint traffic for the Federal Center site probably would be greater than for Park Hill, it is considered that the net adverse impact on air quality would be less with the new mint located at the Federal Center. This is based on the following reasons. The stationary pollutant source and the concentration of the vehicle source would be a significant distance away from existing high pollution levels and pollution sources, which are concentrated in the Denver Central Business District. The worst pollution levels are centered on Denver proper and occur when atmospheric conditions are stable and winds are light. This produces downslope winds roughly parallel to the Platte River from the south-southwest during the nighttime and early morning hours, and reversals from the north-northeast during the daytime as heating from the sun takes effect. Due to this peculiar meteorology of the Denver area, during periods of highest pollution levels, pollutants from the Federal Center area generally would tend to flow back and forth parallel to the South Platte Valley

considerably to the west of the high pollutant concentrations in the downtown area, whereas pollutants from the Park Hill vicinity would tend to reinforce these high concentrations to a small degree.

c. Other Potential Pollution Problems

Chemical effluent will be produced from the blank cleaning operations and from the assay laboratory. Oil will be collected from the ingot rolling mill, from the strip mills, and from the blanking and coining presses. All process water and other liquids will be collected in the plant, passed through settling tanks, oil separators, filters and chemical neutralizing basins and then reused within the plant in closed systems. Discharges from the mint into sanitary sewers will comply with the Water Quality Standards of the Colorado Department of Health. Treatment facilities and sanitary sewerage systems will be protected and monitored to preclude the possibility of accidental discharge of contaminants.

Attention must be given to the handling of process cooling water used in the metal casting and strip rolling operations. Process cooling water will be recirculated within the plant in closed systems. This water will be processed through cooling towers or ponds and then reused, so that no cooling water will be discharged from the plant. Particular attention will be applied to the design of any cooling towers to minimize fog-producing conditions. Any fog produced would disappear within the site boundaries.

Solid wastes will be generated from numerous sources within the operations, with also the necessity during the construction period to remove minor quantities of (1) materials from demolished existing structures, (2) plant growth, and (3) perhaps some unsuitable soils. Solid wastes will be processed within the plant, with major quantities of scrap metal being reused. Some solid wastes will be disposed of as salvage and the remainder will be packaged in suitable containers and removed to approved disposal areas. Control of potential pollution during the construction operations will be accomplished by inclusion of an Environmental Section in the construction contract specifications requiring the contractor to comply with local, State and Federal regulations pertaining to disposal of solid wastes, erosion and dust control, and noise control.

There will be some noise pollution, particularly during the construction period, with a potential for noise pollution after project completion, if adequate precautions are not adopted. Noise from operation of construction equipment and pile driving, and other construction operations, is not expected to be a significant problem, due to the muffling effect of the relatively high automotive traffic in the vicinity of the proposed sites, and the relative isolation of the sites. Plant operational noise from outside the proposed sites boundaries would not be apparent, as the buildings will be designed with internal and external noise level controls to meet the requirements of the Federal Occupational Safety and Health Act. There would be some minor noise due to truck traffic and railroad switching engines servicing the rear of the facility.

3.3 Energy Use and Conservation.

Energy will be required in the new mint to operate the coinage production machinery and equipment and to light, heat and ventilate the buildings. Other than heating of the buildings, nearly all of the energy would be in the form of electric power, which the Public Service Company of Colorado has indicated would be available in required amounts at either location.¹² The additional energy requirements of the new mint are considered to be unavoidable, as coins are required for the orderly and efficient conduct of the economic activities of the American people. It would be desirable to heat the buildings with a clean fuel such as natural gas, but if gas is not available in required quantities in 1980, heating could be accomplished with other fuels and air pollution prevention devices installed so that air quality standards would be met, as discussed previously. The new mint would be designed and constructed to conserve energy by such measures as provision of adequate insulation, reduction of windows and installation of storm windows, and use of heat generated by industrial operations and machinery for space heating.

3.4 Secondary, or Indirect, Environmental Consequences.

Secondary effects of the proposed action are expected to be relatively minor at either location due to the nature of the project and the small employee force in comparison to the total population and work force in the Denver metropolitan area. These effects would occur gradually and would be influenced considerably by changes in patterns of overall metropolitan area development, State and local controls on land uses, availability of gasoline for private automobiles and improvements and extensions of public transportation systems.

At both locations land for the proposed project is available, and water, sewerage, roads, electric power and other public services are already in existence as needed for the project.

It is believed that the main secondary consequences of this proposal would be with respect to housing, schools, economic impact and tourist considerations.

With the mint at the Park Hill Golf Course, the secondary consequences would be almost nil. As discussed in paragraph 3.1 above, it is expected that employee residences would gradually change with time from the circular pattern around the present Denver Mint, but the movement of the residence center would be in the order of 2 miles to the northeast. The facility would not be as accessible to tourists as is the existing downtown location, and there probably would be some reduction in the number of public visitors from the recent average of 245,000 per year. Most of these tourists

12 Letter, Public Service Company of Colorado to Frank W. Rhea, February 11, 1974.

visit other points of interest in the downtown Denver area in conjunction with their trip to the mint, or visit the mint during their stay in Denver to attend some major event such as a convention or the National Western Stock Show. There possibly would be a minor shift in money spent by tourists in the Central Business District to areas closer to the new mint.

For the Federal Center location there would be somewhat more of an impact regarding these factors. In this case, the employee residence center is anticipated to move about 4 miles westward from the present mint. This would occur as the work force is increased to the 800 figure and due to employee turnover, primarily through retirements. By this process, mint employees residing in Lakewood would be expected to increase from the present figure of 39 to 150. Vacant housing, particularly in the low- and moderate-income ranges, is in short supply in Lakewood today. A classification and wage scale of mint employees, as of December 31, 1973, is attached as Appendix E. There are no mint employees currently in the low-income bracket (less than \$6,825 per year for a family of 4), and there are 57 employees in the moderate-income bracket (less than \$8,883 per year for a family of 4). The overall mint average salary of \$10,839 is generally comparable with that of Lakewood residents. Some mint employees might have difficulty in obtaining housing in immediate proximity to the site, but this would not pose a serious problem as housing of all classes is available in the City of Denver and in Jefferson, Adams and Arapahoe Counties, all of which areas would be available to mint employees. In addition, the comprehensive plan "CONCEPT: LAKEWOOD", cited earlier, contains recommendations that the City of Lakewood shall establish a policy of requiring low- and moderate-income housing in future major developments and a goal that annual housing production shall include 10 percent low- and moderate-income units. It is expected that current mint employees would relocate slowly over a considerable time period, if at all, and that most of the new employees would come from the existing Denver metropolitan area work force base, so that there would not be a sudden influx of new residents into areas in close proximity to the mint site.

With respect to schools, the additional mint residents of Lakewood would add about 150 pupils to the school system, with similar minor changes caused in school populations throughout the metropolitan area. These adjustments and additions would be difficult to detect because of the large population growth in the area.

Some economic impact would be felt by the shift of the mint's present annual payroll of \$5 million to a center about 4 miles westward of its present location. Also, a minor amount of tourists' expenditures for lunches and car service would be shifted away from downtown Denver.

4. Alternatives to the Proposed Action.

The alternative of no construction is not considered practicable. The projected demand for coins dictates that production capacity be increased. The space in the present United States Mint institutions is saturated in fulfilling current production requirements, and it is not feasible to expand the existing facilities.

The alternative of constructing the new mint at some location other than the two sites discussed in this statement has been explored in great detail for in excess of two years.

Regarding the general city area location for the proposed project, detailed studies by the Treasury Department of various locations in the United States have resulted in the conclusion that the Denver area is the optimum location for the new mint for the following reasons:

a. Denver is ideal from a nation-wide coin distribution standpoint in conjunction with the other coin production facilities, the Philadelphia Mint and the San Francisco Assay Office.

b. Denver is an excellent transportation center, with good rail and trucking facilities available for shipping coins to the West Coast, as well as the Midwest and points East as required.

c. The labor market in Denver is advantageous in that there is a good supply of labor at reasonable rates.

d. Electricity, gas and water are generally available at reasonable rates.

e. The relocation of operations to a new mint in the same general area as an existing mint can be accomplished in a more orderly manner without substantial loss of production. A move to a different city would result in substantial losses in production and would be very costly in terms of money and losses of experienced personnel.

The specific location for the new mint in the Denver area has been the subject of much investigation and review by the General Services Administration and the Treasury Department. A complicating factor in this process is the size of the area (30 acres minimum) required for the new facility. After thorough weighing of the pros and cons of the potential sites, the sites located at the Park Hill Golf Course and the Denver Federal Center have been selected for further consideration for the following reasons:

Site A - Park Hill Golf Course

a. The site is excellent for the proposed new mint from an industrial engineering standpoint (area, dimensions, foundation conditions, availability of utilities, absence of flood potential and adequate space for future expansion).

b. The site has good aesthetic potential to provide a distinctive, dignified setting for the mint.

c. The site would have good access for tourists and official visitors and would involve minimum economic and social impact on the Denver area.

Site B - Denver Federal Center

a. The site is excellent for the proposed new mint from an industrial engineering standpoint (area, dimensions, foundation conditions, availability of utilities, absence of flood potential and adequate space for future expansion).

b. The site has good aesthetic potential to provide a distinctive, dignified setting for the mint.

c. The site can be obtained without cost to the Federal Government and would avoid placing additional land in public ownership.

d. The site would have fair access for tourists and official visitors.

e. The mint operation would be consistent with other activities at the Federal Center and would tend to consolidate Federal requirements for utilities, transportation and other services.

Other locations in the Denver area were considered but have been eliminated at this time because of undesirable factors in comparison to the two alternate tentatively selected sites. The sites considered and the prime reasons for their elimination are:

a. South Platte River from about 18th Avenue to Speer Boulevard.

This location had been selected for the new mint and was the subject of a previous Environmental Impact Statement, dated February 2, 1973. Plans of the Burlington Northern Railroad to construct the north-south mainline double-track railroad through Denver along the west bank of the South Platte River have made this site untenable for the reasons discussed previously in this statement and which are summarized here for convenience. Due to the long, narrow configuration of the area, and the restricted width at about site center between the Valley Highway and the sharp bend in the South Platte River, layout of the new mint on this property would result in one large building complex on the northern portion and another building complex on the southern portion, with about 1,000 feet of relatively low, open space in between. The frequent through and local service train traffic, operating on tracks immediately adjacent to the mint structures, would produce visual and noise pollution to such an extent that there would not be an appropriate environment for the envisaged mint structures and grounds, which are planned to reflect the importance and dignity of the United States Government coinage functions to be performed in the facility.

b. (1) Mississippi Avenue at South Huron Street (Navajo Truck Lines area).

(2) Bayaud Street at South Pecos Street (Allied Chemical Co. area).

It has been determined that neither of these sites are for sale; major commercial activities are presently using the sites, and neither site has any advantages relative to the two tentatively selected sites.

c. University Boulevard at Valley High (area south of South High School).

The mint at this location would be out of place with the surrounding residential environment. In addition, the property is owned by the City of Denver and the Denver School Board and has not been offered by the City.

d. Mississippi Avenue at Broadway (old Samsonite Plant).

The site is too small; there would be considerable expense in relocating existing improvements, and the site would not provide an appropriate environment for the new mint.

e. York Street between 40th Avenue and 43rd Avenue (Union Pacific Pullman site).

This heavily industrialized area would not provide a distinctive, appropriate environment for the mint.

f. Denver Union Terminal Site.

On this site, part of the new mint would have to be built over five railroad tracks, a very undesirable situation. In addition, there would be adverse aesthetic features with respect to the frontage provided for the entrance and for tourist flow, and with respect to the many old multistory commercial warehouses in the area, which probably will remain for a considerable period of time.

g. Nome Street between 37th Avenue and 40th Avenue (Union Pacific Industrial Park).

This site is suitable from an industrial engineering standpoint, but it has disadvantages relative to accessibility for employees and tourists, and in providing a distinctive, aesthetic setting for a new mint.

h. Rocky Mountain Arsenal.

Although this location would be suitable from an industrial engineering viewpoint, and the land is already owned by the Federal Government, it has no particular advantages relative to the Federal Center; it is not as well served by existing and planned mass transit systems, and the uncertainties regarding nerve gas storage at the Arsenal make it prudent to avoid adding to the population base at this installation.

5. Probable Adverse Environmental Effects Which Cannot Be Avoided.

Adverse and unavoidable environmental impacts of the proposed project for both sites are: (1) the increase in traffic congestion which its operation will bring to the areas, (2) the additions of stationary source and vehicle-generated air pollutants, and (3) the various short-term impacts during the construction period.

The increase in automotive traffic will be caused by the necessary transportation of the 800 employees to the facility, by the daily average of 20 trucks involved in deliveries and shipments and by busses and private cars bringing tourists to the mint. The major portion of the added traffic would be during nonpeak periods as work-shift changes and commercial trucks would be scheduled to avoid these times and tourist traffic would occur between 9 A.M and 3 P.M. daily. Traffic increases in the vicinity of the Park Hill site probably would create more of a problem because of existing congestion on I-70 and Colorado Boulevard.

Additional stationary source and vehicle-generated pollutants would be of about the same quantity for both locations. The additional pollutants in the Park Hill area are of more concern because of existing high air pollution levels in the vicinity and Federal/State plans to reduce vehicle miles traveled in this area.

The major environmental impacts of the construction period would be felt in noise, dust, and in an increase in traffic volume. The construction contract specifications for the project would include a section on Environmental Protection, which should minimize, although not eliminate entirely, these short-term impacts on the environment.

6. The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity.

The proposed action does not involve any trade-offs between short-term environmental gains at the expense of long-term losses, nor vice versa. A new mint on either site will assure that high quality coins in sufficient quantities are produced to meet the needs of the United States. The results achieved by providing modern, clean automated facilities, designed and constructed for effective, efficient coining processes and for provision of a safe and healthful work environment, should produce a beneficial gain for the American people. No long-term degradation of the proposed areas should occur. Generally, the proposed facility should result in an enhancement of either area in conformance with adjacent developments and planned land uses.

7. Any Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Action Should It Be Implemented.

For both locations, the proposed action is compatible with other activities, surroundings and planned developments. Also, no historical or archaeological sites or buildings would be affected.

Labor and materials resources required for the construction of the project would be irreversibly committed.

Should, for some reason, the facility be no longer required, it would be possible, although at considerable expense, to physically remove the structures, roads, and parking lots, and return the area to an open-space condition. It is more probable, however, that if the facility were not required for making coins, an alternative office/industrial use would be found for it.

8. Other Interests and Considerations of Federal Policies That Are Thought to Offset the Adverse Environmental Effects.

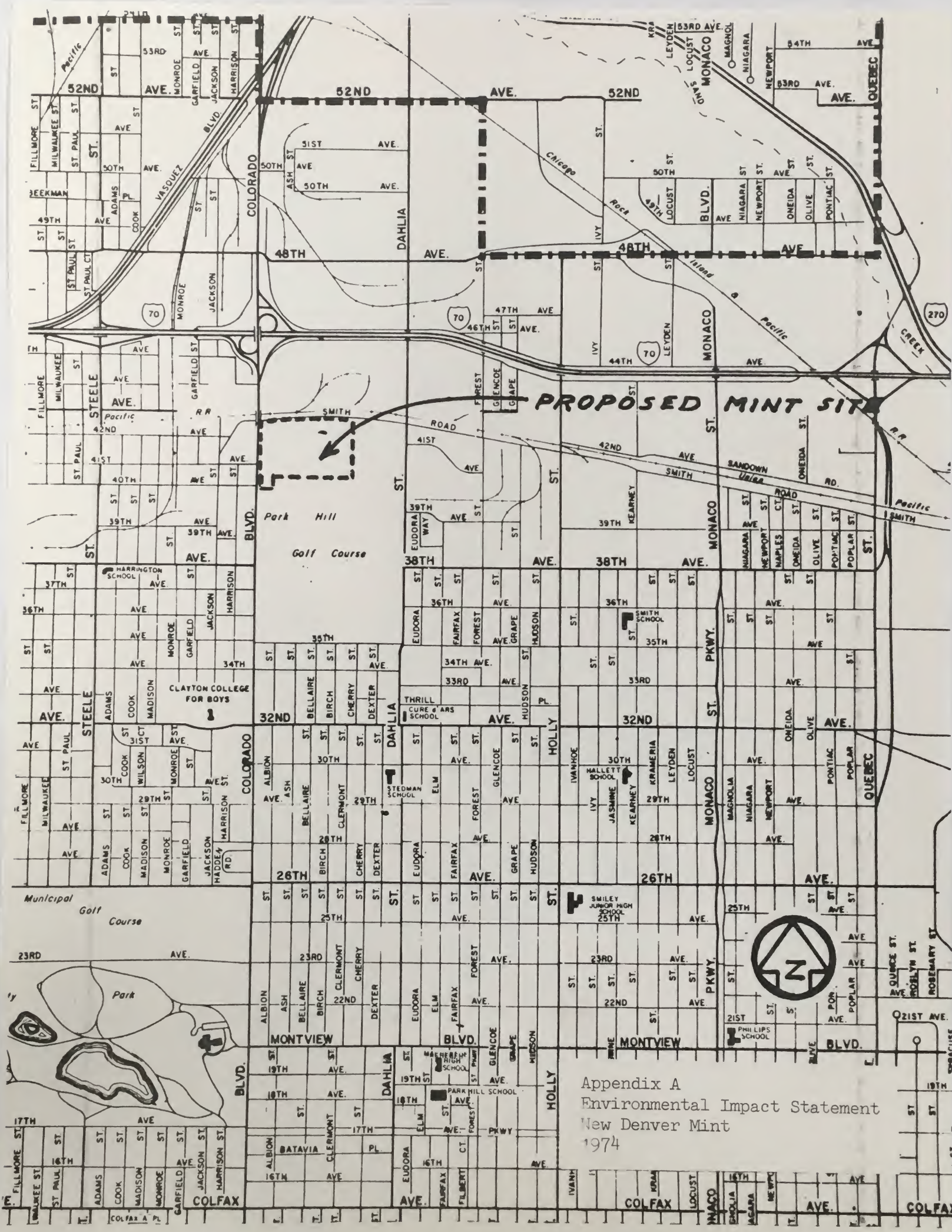
The adverse environmental effects of this proposal, which do not appear to be of a major nature, are considered to be offset by the fact that a new mint is needed to provide the coinage capacity to serve the requirements of the economy of the United States and that the Denver area is an ideal location for such a facility. In addition, Federal policies and programs, particularly in light of growing air pollution and energy use problems, are expected to be continued and accelerated toward the objective of providing mass transit systems and other alternatives to the use of present configuration private automobiles as the primary means of transportation. This should serve to reduce the traffic congestion and air pollution adverse impacts.

Table of Documents Referred to in Draft Revised Environmental Impact Statement
for the Location and Construction of the Proposed New Denver Mint.

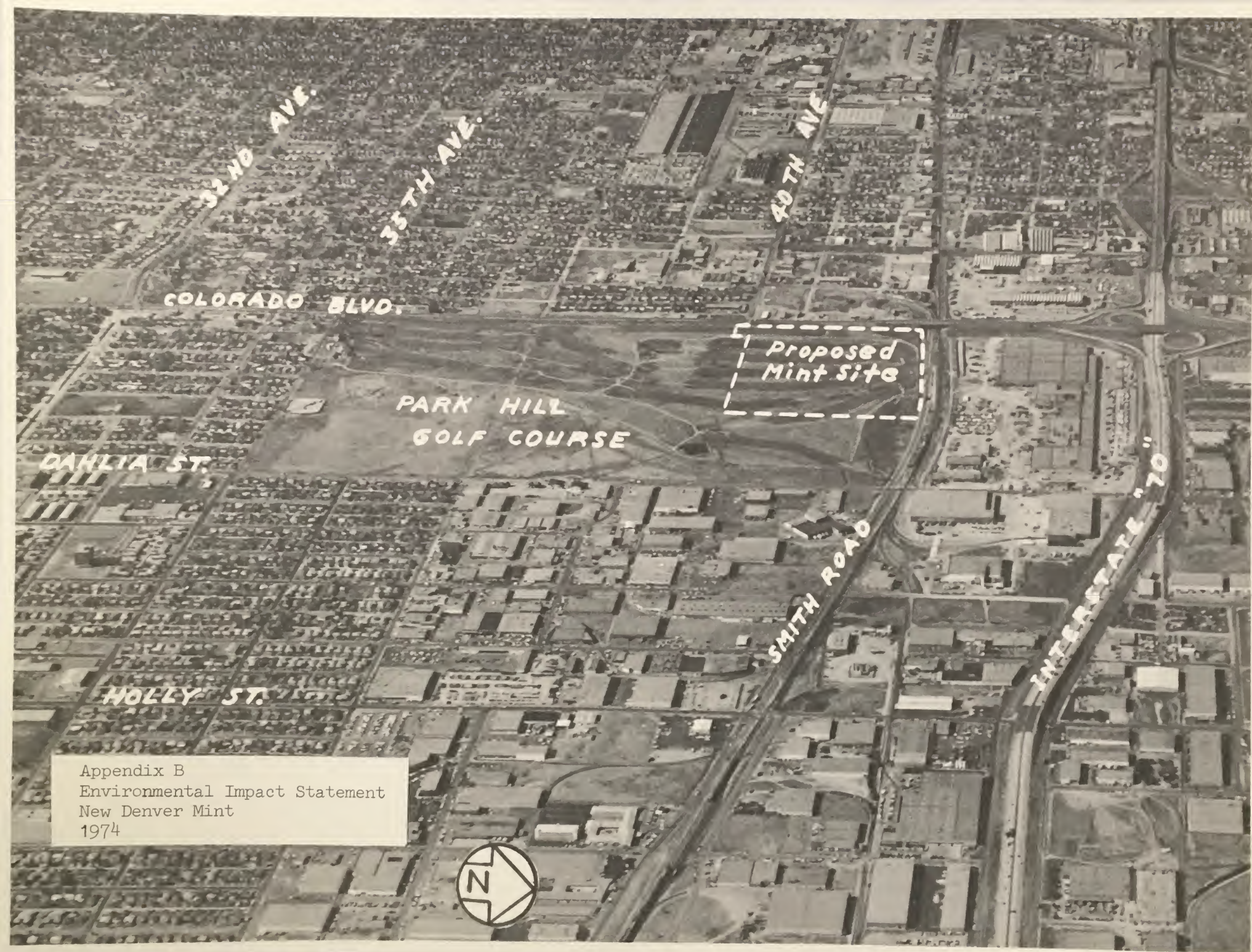
The following is a list of the documents referred to in the Statement. As stated on Page 4 of the Statement, these documents are available for consultation by any interested person at the office of the Bureau of the Mint Facilities Project Manager, Denver Mint, 320 West Colfax Avenue, Denver, Colorado 80204.

The documents are listed in the order of their mention in the Statement, and each document in the set available for inspection has been numbered with the respective number in the list.

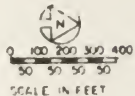
1. Letter from the Mayor of the City and County of Denver to Frank W. Rhea, dated February 12, 1974.
2. A Public Transportation Plan for Colorado's Regional Transportation District, Summary Report, March 1973.
3. Regional Land Use, Highway and Public Transportation Plans, Denver Region, Regional Council of Governments, Summary Report, October 1973.
4. Denver 1985, A Comprehensive Plan for Community Excellence, Denver Planning Office, January 1971.
5. Resolution No. 6, Series of 1974. Introduced by the entire Council. A resolution urging Mint Director Mary Brooks to keep the Mint within the City and County of Denver.
6. CONCEPT:LAKEWOOD, November 1973. A Comprehensive Plan for the City of Lakewood. Final Draft for community consideration.
7. Letter, Colorado State Department of Highways to the Treasury Department, February 11, 1974.
8. Same as No. 2 above.
9. Same as No. 2 above.
10. Same as No. 7 above.
11. Statistical Analyses of Air Quality Data, 1970, Suspended Particulates, Colorado Department of Health, Air Pollution Control Division, March 14, 1972, pp. 4-5.
12. Letter, Public Service Company of Colorado to Frank W. Rhea, February 11, 1974.



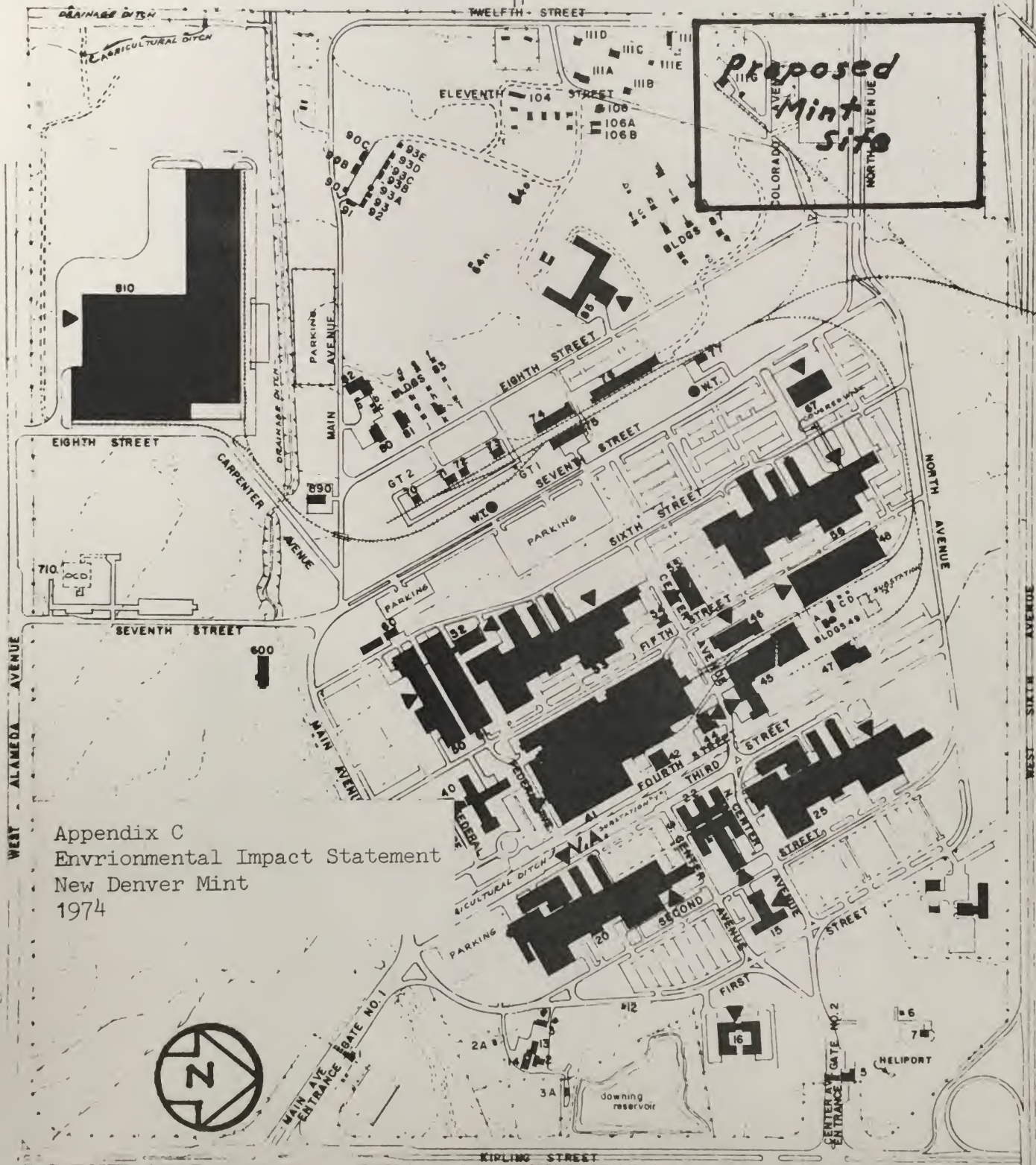
Appendix A
Environmental Impact Statement
New Denver Mint
1974



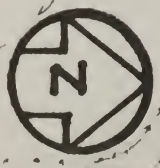
Appendix B
Environmental Impact Statement
New Denver Mint
1974



▲ Indicate Building Entrances



Appendix C
Environmental Impact Statement
New Denver Mint
1974



DENVER FEDERAL CENTER

DATE OF
REVISION: 30 OCTOBER 68

UNION ST.

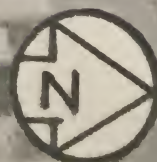
Proposed
Mint Site

ALAMEDA AVE.

WEST SIXTH AVE.

KIPLING ST.

Appendix D
Environmental Impact Statement
New Denver Mint
1974



UNITED STATES MINT
DENVER, COLORADO

CLASSIFICATION AND WAGE SCALE
OF EMPLOYEES

December 31, 1973

<u>No. of Employees</u>			
<u>Annual Salaries</u>	<u>General Schedule (White Collar)</u>	<u>Wage Board (Blue Collar)</u>	<u>Total</u>
Under \$7,000	None	None	None
\$7,000 to \$9,000	23	34	57
\$9,000 to \$12,000	42	278	320
Over \$12,000	42	42	84
	<u>107</u>	<u>354</u>	<u>461</u>

Average Annual Wage Board Salary	-	\$ 10,324
Average Annual General Schedule Salary	-	12,841
Average Annual Mint Employee Salary	-	10,839

Appendix E
Environmental Impact Statement
New United States Mint
1974

W.H. McNichols Jr.
MAYOR



City and County of Denver

CITY AND COUNTY BUILDING · DENVER, COLORADO · 80202

AREA CODE 303 297-2721

FOR RELEASE: Friday, Dec. 21, 1973

Mayor Bill McNichols revealed Friday that the United States Department of Treasury has decided to move the proposed new Denver Mint from its projected Central South Platte Valley site. The Mayor was informed of plans to move the project to an alternate site in a telephone conversation with Mrs. Mary Brooks, Director of the Mint when she learned that the Mayor had been unsuccessful in his efforts to persuade the Burlington Northern Railroad to not relocate their main line trackage to the west bank of the river immediately adjacent to the federal project.

Mayor McNichols said "We had worked very hard with the Mint people in Washington for over 2½ years in first locating then planning this development. I have always felt construction of the Mint in the Central Platte Valley would provide a first big step which would motivate rehabilitation of the entire area. While we were negotiating with Mrs. Brooks all parties, of course, knew of the spur trackage on the west bank of the river. This appeared to be a plus factor since the Mint operation would require a rail siding. This particular spur is used primarily to divert cars to the Federal Center and it was felt there would be very little traffic along the present right-of-way.

"When Mrs. Brooks learned of the plan to transfer the main lines serving three railroads to the present right-of-way alongside the proposed Mint side she appealed to the City of Denver to block the move. Since the proposed main line tracks would be laid on existing right-of-way, we could only resort to persuasion. It was the position of our legal department that we could control any change in the right-of-way or any intrusion into the official channel of the South Platte River, but that we had no control over the use of the existing right-of-way for railroad purposes.

"Numerous meetings were held with railroad representatives over the past few weeks. Following a conversation with Mr. J. C. Kenady, Vice President, Real Estate Development, in St. Paul last week I was hopeful we were making progress. I asked my people to submit a number of alternate suggested routes for the main line trackage. These were transmitted to St. Paul; however, I am in receipt of a letter in which it was stated each of the alternates presented 'Destroy our long range goals for upgrading the area' and indicated their intention to proceed with the west bank plan.

"The Bureau of the Mint feels the installation of main line traffic adjacent to their operation constitutes an incompatible intrusion. As a result the Treasury Department has informed me of the change in plans. They currently are considering two alternate sites; one on Stapleton International Airport property adjacent to the projected Vehicle Services complex and another at the Federal Center west of the city.

"I regret very much the conditions which have brought about this major change in the Mint plans."

The Mayor had been negotiating for a number of years to find a suitable site on which to relocate the new Denver Mint. The 38 acre South Platte site which lies between Interstate 25 and the Platte River was selected by Mrs. Brooks after an extensive study of all potential sites in the Denver area. Mayor McNichols testified before Chairman Tom Steed's subcommittee of the House Committee on Appropriations in March of 1971 at which time approval of the Platte site was given.

Although it is not possible for either the present Congress or the Bureau of the Mint to make a commitment on disposal of the present Denver Mint site, the Treasury Department and the House Subcommittee went on record in favor of the City of Denver being given first opportunity to acquire the present Mint upon completion of the new facility.

The City of Denver entered into a contract with the Bureau of the Mint and with the General Services Administration on May 25th of this year whereby the City would assemble the property needed for the new Mint in the Central South Platte area and would transfer deed to the Federal government on August 1, 1974 for $1\frac{1}{2}$ million dollars. Denver already owns approximately 13 of the 38 acre site. The process of appraisal of the remaining 25 acres had been completed and negotiations were under way for the purchase of this property when Mayor McNichols received notice on October 25th not to proceed until the main line railroad problem could be resolved.

W.H. McNichols Jr.
MAYOR



City and County of Denver

CITY AND COUNTY BUILDING · DENVER, COLORADO · 80202

AREA CODE 303 297-2721

FOR RELEASE: Friday, Dec. 21, 1973

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UNITED STATES GOVERNMENT

Memorandum

TO : Frank H. MacDonald, Deputy Director of the Mint

DATE: October 26, 1973

FROM : Frank W. Rhea, Facilities Project Manager *FWR*

SUBJECT: New Denver Mint Site

1. On October 24, 1973, a meeting was held in the offices of the Department of Public Works, City and County of Denver, to discuss matters pertaining to the South Platte River site for the new Denver Mint. The meeting was held at the request of the Department of Public Works and was attended by the following:

Mr. Cook, Deputy Mayor, City and County of Denver
Mr. Henry, Special Assistant to the Mayor of Denver
Mr. Thomas, Transportation Planner, City of Denver
Mr. Gess, GSA New Mint Project Director
Mr. Rhea, Bureau of the Mint
Mr. Frost, Bureau of the Mint
Mr. Phillips) Representatives of the Selected Denver Mint Design Firm
Mr. Reister) of DMJM-Phillips/Reister
Two Representatives of the Colorado Southern and Denver, Western and Rio Grande Railroad Companies

2. Mr. Thomas announced that the purpose of the meeting was to discuss plans for removal of the existing railroad marshaling yards to the east and across the South Platte River from the Mint site, plans for development of this large, cleared site into a commercial/residential area, and the proposed routing of the main railroad lines through Denver. Mr. Thomas displayed a large map showing these proposals (See attached map.) Mr. Thomas stated that all of these plans were in a tentative stage and that the meeting had been called because of reports that the Treasury Department had objections to the planned developments. Mr. Thomas then asked for comments from the Government representatives.

3. I pointed out that the proposals represented a completely new concept regarding the surrounding setting for the new Mint and asked for more details. The railroad representatives, at the request of Mr. Thomas, described in detail their ideas for rerouting of railroad lines and area development. In summary, the railroad companies involved propose to clear out the marshaling yards, build a large project consisting of office space, residential areas, shops, and parking facilities, all appropriately landscaped and with open space, fountains, walkways, etc., on the east bank of the South Platte. In order to enhance this proposed development, the railroad companies propose to construct new lines for



the only rail access through Denver on the west bank of the South Platte. The railroad representatives stated that the railroad companies involved owned land extending into the official channel of the river and that the new main rail lines would be constructed by filling a portion of the river, moving the river channel slightly to the east, and would not involve encroachment into the area covered by the agreement between the City and the Government for the new Mint site.

4. A detailed discussion ensued during which it was pointed out by the Government representatives present that main rail lines immediately adjacent to and between the Mint structures and the river would not provide a suitable environment for a new Mint and that such a concept was never discussed nor contemplated in the many discussions between Treasury officials and the Mayor regarding this site for the new Mint. I asked specifically whether the City had the legal authority to prevent the railroad companies from proceeding with plans to construct the main rail lines on the west bank of the South Platte in the area of the new Mint site. Mr. Henry stated that he did not know and would request the City legal staff to explore this matter.

5. At this point the general meeting ended and a further discussion continued, attended only by City officials and representatives of the Government. I started this discussion by reviewing the following points:

a. The site is already marginal because of its configuration, the heavy highway traffic on Interstate I-25, and the planned construction of a new 72" interceptor sewer along and within the site east boundary.

b. Selection of the site was based on a desire of the Federal Government to assist in the urban redevelopment of the South Platte Valley in Denver.

c. Selection of the site was based on City master plans which showed that the area across the river would be cleared of rail yards and developed as a city park.

d. The concept of main rail lines on the west bank of the river was completely new and incompatible with respect to the new Mint.

e. The Federal Government fully understands and appreciates the City's efforts in supporting the project through its agreement to acquire all of the property involved and convey this property to the Government.

6. Mr. Cook and Mr. Henry emphasized the following points:

a. The City has an agreement with the Government regarding the Mint site, and the Mayor will not renege on this agreement.

b. The Mayor had no knowledge of the proposed rail lines on the South Platte west bank until very recently.

c. The City does not have the money and does not have the power of imminent domain with respect to acquiring the railroad marshaling yards for conversion to a city park.

d. The City has had discussions with the railroad companies but does not have any agreement with these companies regarding the proposed developments.

7. From this meeting and further reflections, it is concluded that:

a. The City has abandoned plans to convert the rail marshaling yards into a city park.

b. The proposed commercial/residential development is highly desirable from the City's point of view (Redevelopment of an unsightly area, additional tax base, etc.)

c. Rerouting of rail lines along the west bank of the South Platte would allow the City to eliminate unsightly highway viaducts between the river and the City center core.

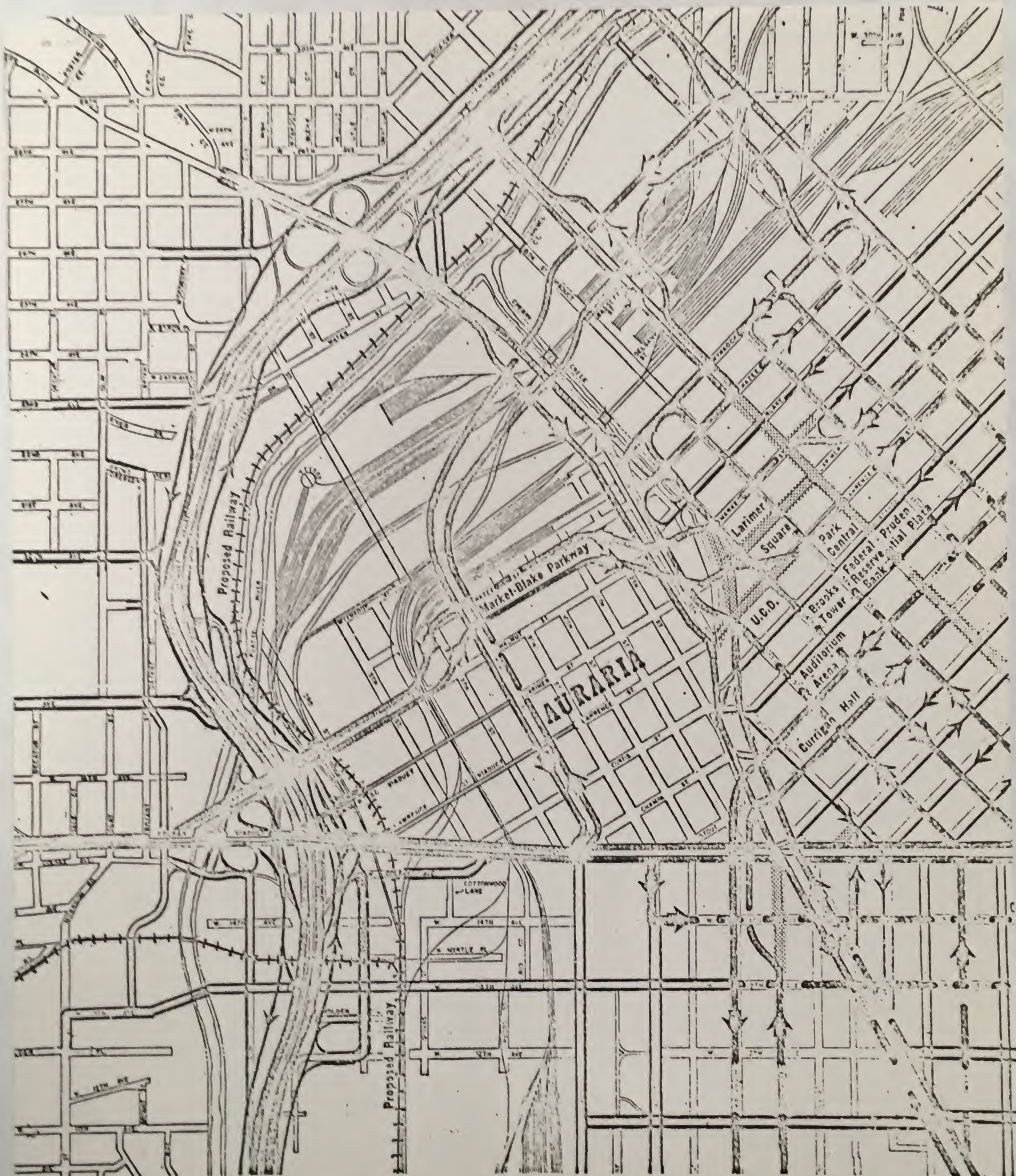
d. The railroad companies will be extremely reluctant to retain the existing main rail lines (approximately 10 blocks east of the river), as this would detract from the proposed commercial/residential development.

e. The City officials would like the Government to accept the proposals, including the rail lines on the west bank of the river.

f. The proposed development across the river, although perhaps not as desirable as a city park, would not appreciably detract from the Mint surrounding environment.

g. The proposed main rail lines immediately adjacent to the Mint, in conjunction with the other marginal site factors, would make the South Platte site untenable for the new Mint.

cc: Superintendent ✓
D. Gess, GSA



TRAFFIC PLAN FOR CENTRAL DENVER AS CONCEIVED BY TRANSPORTATION ENGINEER RICHARD THOMAS

Desk Copy



THE DEPARTMENT OF THE TREASURY

WASHINGTON, D.C. 20220

ASSISTANT SECRETARY

October 25, 1973

Dear Larry:

We were advised through our Mint Project Manager in Denver today that there are plans to relocate the main north-south rail line through the City of Denver along the east side of our proposed new Mint site. There is anticipated to be heavy traffic along this line, as much as one train per hour of through traffic. This is certainly not an acceptable adjunct to the planned development of the area by the Mint.

Mrs. Brooks talked to the Mayor of Denver this morning, and he also indicated a concern over this alteration of the site configuration, which is contrary to any of our previous concepts for a Mint site, and indeed would prevent the City of Denver from acquiring the land package specified in the conveyance agreement.

Unless the City of Denver can resolve this unexpected development to our satisfaction, we will need to abandon our plans to construct a new Mint on this site. We are sure you will agree it would be unwise to expend or obligate further funds in development of plans associated with placing a Mint facility on this site. Accordingly, we ask that you assure that prompt actions are taken to prevent such obligations or expenditures until this matter is resolved to our mutual satisfaction.

Sincerely,

Warren F. Breche

Mr. Larry F. Roush
Commissioner
Public Buildings Service
General Services Administration
Washington, D. C. 20405

Rec'd via teletype 10/26/73 @ 9:28 am for Frank Allen from Hank McDonald



RECEIVED

NOV 16 1973

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

STATEMENT OF
FRANK H. MACDONALD, DEPUTY DIRECTOR OF THE BUREAU OF THE MINT,
DEPARTMENT OF THE TREASURY
BEFORE THE PUBLIC BUILDINGS AND GROUNDS SUBCOMMITTEE
OF THE HOUSE COMMITTEE ON PUBLIC WORKS
NOVEMBER 13, 1973, at 2:00 P.M.

Mr. Chairman and Members of the Subcommittee, I welcome the opportunity to appear before you in support of proposed legislation which would enable the construction of a new Mint at Denver, Colorado. Specifically, the bill before your Subcommittee, S. 1901, would amend legislation enacted by Congress in 1963 which authorized the Secretary of the Treasury, acting through the Administrator of General Services, to acquire sites for, and to construct and equip, such buildings as may be necessary in connection with the operations of the Bureau of the Mint. The bill before your Subcommittee would amend that Act to authorize an increase of \$50 million in the amount of money that can be appropriated to the Treasury Department for the construction of Mint facilities. This would raise the total authorized by Congress for Mint construction to \$95 million since 1963. In addition, the bill would extend the time during which the funds so authorized could be appropriated from July 1, 1973 to July 1, 1983.

Although the proposed bill would authorize expenditures for all construction and equipment requirements by the Mint, its primary objective is to permit us to go forward with the construction of a new facility in the Denver area. At the present time, three Mint facilities produce coinage for the entire Nation. These include the new Mint at Philadelphia, which began operations in August 1969; the San Francisco Assay Office, which was brought back into production in the fall of 1966; and the Denver Mint, which was built around the turn of the century. It has been clear to the Department for about ten years now that the Nation's increasing coinage needs would, at the minimum, require an expansion and modernization of the outmoded production facilities of the Denver Mint. This need was brought to the attention of the Congress, which in the 1966 Supplemental Appropriation Act, designated \$100,000 to develop plans for a cladding capability and for related construction at the existing Denver Mint. However, a study undertaken by a private architect-engineering firm recommended that, instead of expanding the present Denver facility, construction of a new Mint on a new site was the optimum plan in order to bring the Denver facility to a production capability sufficient to meet growing coinage needs.

The national coinage demand, according to our most recent forecasts, is estimated to rise to 18 billion coins per year by 1980 from the present 9 billion pieces. Indeed, it is quite likely that there will be a sharp increase in coinage demand even on the shorter run. As you well know, Mr. Chairman, the Congress passed about a month ago legislation to provide a bicentennial design for all quarters, half-dollars, and dollars issued

after July 4, 1975. The anticipated demand by collectors for these bi-centennial pieces, together with increasing commercial demand for coinage, will reach a point by 1977 or 1978 where the need for coinage could exceed our current production capability. With existing facilities, we can produce only 13 billion pieces per year by working three shifts at full capacity. Thus, well before the new Mint is completed, we will need to take action to increase our current productivity by installing additional equipment in our present facilities.

The plan to replace the old Mint at Denver was presented to the Congress in 1971. In its fiscal year 1972 budget, the Department included \$1.5 million for the acquisition of the new Mint site. The Congress agreed with the need for a new facility and appropriated the requested amount. For fiscal year 1973, the Congress appropriated an additional \$2 million to enable the Mint to enter into a contract for architectural and engineering services necessary to permit the construction and equipping of the new facility in a timely manner. Both of these appropriations were made under the authority of the 1963 Mint construction statute and were included in the \$45 million total authorized by that law. However, as I mentioned before, Mr. Chairman, the authority contained in that Act expired this past July; most of the funds authorized and appropriated by the Congress were utilized for the design and construction of the Philadelphia Mint in the 1960's, with the exception of the \$3.5 million so far appropriated for the new Denver Mint.

In May of this year, we reached an agreement with the City of Denver

for the acquisition of an appropriate site for the new Mint. Under the agreement, the City would assemble an approximately thirty-three acre land-package by the South Platte River before next August. When that land-package is assembled, the City will convey the land to the Government for \$1.5 million which, as I mentioned before, was appropriated to us in 1971 by the Congress. However, we were told about a week ago that the City of Denver may not be able to convey to us the selected site as specified in the agreement. If they cannot do so, we intend to locate the new Mint on an alternate site within the Denver metropolitan area. In either event, we are confident that a site will be available for the new facility by no later than August 1974.

The General Services Administration is ready to make arrangements for the development of the final design for the project, including the design of the production process, by an architect-engineering firm. For that purpose, we have already transferred to the General Services Administration the \$2 million appropriated to us by Congress in 1972.

The design, construction and equipping of the new Mint at Denver, which we expect to be operational by 1980, will involve two stages. The authorization we are now requesting from Congress pertains to the first stage of the project. This stage includes the site acquisition and design preparation activities, for which the necessary funds have already been authorized and appropriated, as well as the construction and equipping of a modern coin production and administrative facility which would be covered by the authorization here sought. Under our current estimates, the total cost of this stage of the project will be \$55.3 million, including

the \$3.5 million already appropriated for that purpose by the Congress. The legislation now pending before you, together with amounts previously made available to us by the Congress, would fully cover the cost of this first stage.

This new coin producing facility will enable us to manufacture 10 billion additional coins per year and would thus enable us to meet the ever-growing coinage demands of the Nation. In addition, however, we intend to include a strip fabrication facility in the new Denver Mint. The construction of such a facility, which would be the second stage of the project, is essential to assure the constant supply of high quality strip at a reasonable price for coinage blanks. The strip production facility planned for the new Denver Mint would have the potential for supplying our total requirements for penny strip.

The authorization we are now requesting will not cover the cost of construction of this strip facility and therefore we will have to come back to Congress for additional authorization. The reason we are unable to request authorization for the strip fabrication facility at this time is that we are currently examining the long-range feasibility of the continued use of copper in our pennies. Because of the steadily rising price of copper, which has nearly doubled since the beginning of this year, it may soon be necessary to abandon the current bronze alloy and substitute a new alloy for pennies. Of course, any change in the penny alloy would have to be authorized by the Congress. At this point, however, we must leave our options open concerning the nature of the strip production facility. Since it depends entirely on the type of alloy used in coinage,

we would be misleading the Congress if we were to request at this time authorization for a bronze strip production facility knowing that by the time it is completed we may be using an entirely different alloy in our pennies. Thus, our authorization request for the strip production facility must await completion of the study being conducted by Treasury and the Federal Reserve on the feasibility of alternate penny alloys.

In the meantime, Mr. Chairman, we consider it in the best interest of the Nation that we go forward with the construction of the new Mint at Denver. I respectfully urge you therefore to give favorable consideration to the proposed legislation which would enable the Mint to meet the coinage needs of the public.



HOLD FOR RELEASE
ON WEDNESDAY, MARCH 6, 1974

TREASURY DEPARTMENT ISSUES DRAFT REVISED
ENVIRONMENTAL IMPACT STATEMENT FOR NEW DENVER MINT

The Treasury Department today issued a Draft Revised Environmental Impact Statement for the new Denver Mint. The statement was prepared by the Bureau of the Mint pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969, and was filed with the Council on Environmental Quality on February 27, 1974.

The proposed new Mint would consist of a combination of high-bay, one-story buildings and multi-story support/administrative buildings, plus parking areas, paved vehicle maneuvering areas, all necessary utilities and landscaping. Total gross building space would be about 700,000 square feet.

The Treasury Department is considering two possible sites for the new Mint, without favoring either location until comments on the proposed action have been received and evaluated. The two sites are (1) the northwest corner of the Park Hill Golf Course in Denver and (2) the northwest corner of the Denver Federal Center in Lakewood.

The new Mint is being planned for a 1980 production capacity of 10.5 billion domestic coins per year and 25 million proof coins and medals per year. It would be designed to provide space for expansion of critical operations and to make possible reasonable expandability of the entire facility to accommodate increased production requirements as they develop in future years.

Copies of the Statement are being sent to appropriate Federal, state, and local agencies and to private organizations which may have an interest. Copies of the Statement are available for inspection during regular working hours at the following locations:

Facilities Project Manager
Bureau of the Mint
Denver Mint
320 West Colfax Avenue
Denver, Colorado

Office of the Director
Bureau of the Mint
Room 2064
U. S. Treasury Department
15th St. & Pennsylvania Avenue, N. W.
Washington, D. C.

Also, copies are available from the National Technical Information Service, United States Department of Commerce, Springfield, Virginia 22151.

Any comments regarding the proposed project should be submitted by April 22, 1974 to:

Frank W. Rhea
Bureau of the Mint
Denver Mint
320 West Colfax Avenue
Denver, Colorado 80204

After comments on the Draft Statement have been received and considered, a final environmental impact statement will be prepared and issued by the Treasury Department.

-o0o-

Frank Rhea, Facilities Project Manager

February 12, 1974

Betty Higby, Superintendent

Request for information re Environmental Impact Statement

A telephone call was received yesterday from a Mr. Elmer Metcalfe, Jr. (Residence: 2380 Ash, Denver; Residence phone: 333-8867) (Business: Bell Telephone, 1515 Arapahoe, Park Central Bldg., Rm. 650) who requested information regarding the Park Hill Environmental Impact Statement.

He asked that this information be given to (or telephone contact made with) either himself or the President (or Chairman) of the Park Hill Improvement Association, Mr. Charles J. Burns, business consultant (Residence: 1735 Kearney, Denver; Residence phone: 355-9480).



City and County of Denver

CITY AND COUNTY BUILDING · DENVER, COLORADO · 80202

AREA CODE 303 297-272

March 29, 1974

Mrs. Mary Brooks
Director of the Mint
Department of the Treasury
Washington D.C. 20220

Dear Mrs. Brooks:

Thank you for sending us a review copy of the Draft Revised Environmental Impact Statement prepared by the U.S. Mint February 27, 1974, for the construction of a new United States Mint at Denver, Colorado.

City Planning Office staff have reviewed and prepared comments upon the draft. These comments are enclosed.

Highlights of our review are as follows:

- (a) First and foremost, is the legal question of locating the Denver U.S. Mint in-or-out-side of the City and County of Denver. This legal question should be addressed in the impact statement since site location relates to all of the core city's socio-economic and environmental considerations. The Federal Statutes specifically 31 U.S. Code 261 and 262, describe the necessary location for mints and assay offices as follows:

261 " ... The different mints and assay offices shall be known as ... the mint of the United States at Philadelphia ... the mint of the United States at Denver ... the United States assay office at San Francisco ... the United States assay office at New York."

262 " ... The coinage of silver and minor coins shall be carried on at the mint of the United States at Denver, in the State of Colorado."

The Federal Center alternative site is clearly located in the City of Lakewood, in the County of Jefferson, State of Colorado.

The Denver City Attorney's Office has information on the legal requirements should you require the same.

" ... We don't know whether those involved in the preparation of the impact statement are aware of the fact that it is impossible to move a federal establishment from an inner-city location to a suburban location without specific permission of the General Accounting Office of the federal government. This is to prevent the flight to the suburbs that has taken place in some cases at the federal establishment level. It is not uncommon for a federal agency to take off, depart Washington or some other big city, and locate itself in some euphoric sylvan location, where the employees can enjoy the country air, the beautiful views, and the absence of unwanted minority colleagues." ¹

- (b) Both proposed alternatives are located in the Denver Air Quality Control Region, which is the "target area" for implementing federal and state air control strategies. Any implication that the air quality problems are distinguishable between these two alternatives is unfounded by the facts known to the Planning Office. If statistics exist which reflect any air quality measurement differences between the sites, they should be listed. Our investigation shows that air sampling has not been done at either location.

The use of coal-fired energy at the Lakewood site would also add to the suspended particulate air pollution load. This is not quantified in the draft.

- (c) Potential traffic problems which exist because the Lakewood spur tracks cross the 6th Avenue Freeway at grade have not been mentioned.

Similarly, potential traffic problems associated with the interchange at 6th and Simms, which is not a cloverleaf, have been left out of the report.

- (d) The social and economic impact of moving a major employer out of Denver has not been fully examined in the draft statement. Such important factors as loss of Denver school children, housing, classroom space, job opportunities, and estimated loss of city revenues has not been quantified in the draft.

" ... The ethnic distribution chart in Denver: The Core City clearly

¹ Quotes are from a letter to the Mayor from Chancellor Maurice Mitchell of the University of Denver and the United States Commission on Civil Rights.

indicates that Denver is bearing the burden and providing a home for the majority of the ethnic residents of this area. The Black and Hispano minority, for example, are not wanted in Lakewood. If the minorities are not free to move to the suburbs and get the same benefits that they get from Denver, then it is improper and unfair to move to such a location. Result of such a move would be a severe burden on the minority community, which would have to be a commuter employee group in order to reach its place of work. At present mass transit is not readily available from the inner city of Denver to a large number of suburban locations --- particularly to the Federal Center. To force a member of a disadvantaged community to buy an automobile in order to hold a job is a form of discrimination. The kinds of vehicles that can be acquired by disadvantaged persons is likely to be something less than modern vehicles, which may break down frequently, and the result will be absenteeism, job turnover and additional financial burden on the job holder.

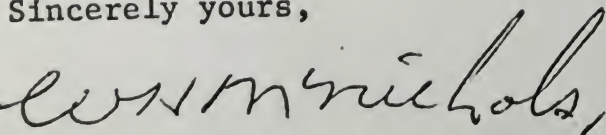
In many ways, therefore, the whole idea of a move from the City of Denver to a white suburb can be viewed as a violation of federal regulations and as a racist or discriminatory action." 1

- (e) We suggest that the Denver alternative be more accurately described as the "Clayton Trust Property" throughout the impact statement.

Here again, the Denver City Attorney's Office has all the necessary information with regard to the "Clayton Trust Property."

The City has appreciated this opportunity for review and comment and stands ready to provide additional information should that be requested. Also enclosed is our "Core City Report" which dwells at length on some of our own concerns.

Sincerely yours,



William H. McNichols, Jr.
M A Y O R

DENVER PLANNING OFFICE STAFF REVIEW COMMENTS, ON THE DRAFT REVISED ENVIRONMENTAL IMPACT STATEMENT PREPARED BY U.S. MINT FEBRUARY 27, 1974 FOR THE CONSTRUCTION OF A NEW UNITED STATES MINT AT DENVER, COLORADO

p.3 Site A description should be changed from "Park Hill Golf Course" to "The Clayton Trust Property" and it should not be implied that this is a municipal park because it is not legally designated as a park. The property is leased by the city from the trust and sub-let to an operator on a temporary basis.

p.3 Central Paragraph, last sentence.
Either delete the reference to the Park Hill site or include a reference to the Lakewood site because both are located in the EPA designated enforcement zone for the lowering of auto-related air contaminants. The entire SMSA, which includes the City of Lakewood where the Federal Center is located, is the designated enforcement area because the air pollution problems are indistinguishable throughout the Denver Air Quality Control Region.

p.5 Fifth Paragraph, third sentence says "This site is relatively unfavorable from a meteorological and air pollution point of view."

We would like to see listed the references for this statement since it is unsubstantiated by the facts known to the Planning Office. The meteorology and air pollution, according to our professional staff, are basin-wide phenomena. No data exists on the frequency of occurrence of air pollution episodes in the City of Lakewood versus the Clayton Trust area in the City of Denver. The meteorological differences, if any, are certainly unmeasured and unknown. It would be more accurate to state that "any new site is relatively unfavorable from the standpoint of causing an increase in automobile traffic".

p.6 Second Paragraph, re the railroad spur

We suggest that additional sentences be added about the problems and dangers of increasing the use of Lakewood's spur track. For example, the track crosses the busy 6th Avenue Freeway at grade. Furthermore, the motorists in Lakewood are not accustomed to stopping at these spur tracks at any of the scores of intersections within the City of Lakewood. It is also our understanding that the PRT route would utilize this same right-of-way in the future. It would be well to list the frequency of expected interruptions to the 6th Avenue Freeway traffic caused by locating the mint at the Federal Center.

p.6 Third Paragraph

Suggest that the 6th and Union Street (Simms) connection be described more fully. It is not a cloverleaf interchange, and it is frequently quite difficult to negotiate for travelers coming from the downtown area. Also, the existing bus service is much better at the Park Hill Clayton Trust site, than it is at the Federal Center.

p.6 Sixth Paragraph

Suggest that the use of coal-fired steam boilers be mentioned here, and that the increased use of this central heating plant will likely add to the suspended particulate air pollution load in Lakewood. Also, additional expensive precipitators or other filters may have to be added to the plant.

p.7 Third Paragraph, last sentence

The "central Denver area" is not the only place in the Metropolitan Denver Air Quality Control Region which experiences high industrial and vehicular pollution. The entire basin population and activity contributes to the problem, and the air pollutant cloud is evident in Arvada, Lakewood, Aurora, Northglenn, Thornton, Englewood, Commerce City, Westminster, Broomfield, Edgewater, Wheatridge, Littleton, and Federal Heights as well as Denver. The pollutant cloud ignores city and county boundaries.

p.8 "Concept Lakewood" is a draft plan for the City of Lakewood which has not been adopted and is now receiving criticism from local residents. There has been no official response from the citizens of Lakewood on the proposed mint site at the Federal Center.

p.9 Section 31 Transportation

I. The center of gravity figures for mint employees need further explanation. The EIS states that the center of gravity at the Park Hill site, over time, would be about two miles to the southwest towards the city core. However, this location is currently one of general out-migration, rather than a center for employee population. The EIS further states that the center for the Lakewood location, over time, would be four miles to the east of the site. We question how long "over time" refers to both sites. Moreover, will the predominately "blue collar" proportion of mint employees affect the location of this center? A map showing the present distribution of employees would be helpful in analyzing the expected employee center of gravity shift, the change in VMT (immediate and long-range), and the extent of disruption to present employee home locations that are envisioned by the EIS.

II. The EIS uses 900 one-way (450 two-way) employee automobile trips for calculations of VMT. What is the source of that figure? Presently the percentage using auto = $\frac{285}{461} = 62\%$

The projected percentage of auto $\frac{450}{800} = 0.56$ or 56%. What is the justification for use of this percentage?

III. No increase is projected for visitors to the Mint. Is it known whether the 200 cars and/or the five buses visit the Mint specifically for the Mint or because of other tourist attractions in the CBD?

p.11 Union Street is not currently under construction for expansion from two to six lanes. However, it is scheduled for widening to 4 lanes for through traffic plus additional turning lanes at some future date.

p.14 First Paragraph

The school administration building air sampling station is located several miles from the Park Hill site and is quite probably not representative of the air quality at Park Hill. Park Hill (located on higher ground), may experience more favorable diluting winds and is located downwind of grassy, vegetated, residential land use. Reference our comments on page five.

p.15 Middle Paragraph

You should mention here that the Lakewood site is also in the EPA and State demonstration areas, and that the additional VMT caused by mint traffic is substantially (50%) higher for the Lakewood site (3,780 vehicle miles for Clayton Trust property versus 5,580 vehicle miles for Lakewood).

p.15 Last Paragraph

Air pollution sources are not concentrated in the Denver Central Business District. The worst pollution sources and levels are centered north of the city when winds are light and atmospheric conditions are stable. Pollutants from the Federal Center would mix with the basin air just as readily as would air from Park Hill.

p.18 Second Paragraph

Moving the employee residence center from Denver to Lakewood only compounds the growing problems of the core city. At a time when we are trying to halt the white rush to the suburbs, the Federal Government should make some efforts to assist. Closely related to this issue is the problem of trying to integrate Denver's schools. If the mint site is moved to the City of Lakewood the core city will lose an estimated 700 Anglo school children, making Denver's racial balance efforts even more difficult. There should be more consistency in Federal agency actions. Reference the Denver Core City report prepared by the Planning Office.

p.18 Third Paragraph

Denver has more space for the school aged children of the mint employees than does Lakewood. This existing classroom space should be utilized prior to further overloading suburban school systems, such as in Lakewood.

p.18 Fourth Paragraph

A considerable detrimental economic loss would be experienced by Denver. The loss of 800 jobs represents a head tax loss, the city service industries would be losers, and the loss of these stable and middle income working people is unacceptable to the people of Denver. More study needs to be done on quantifying this projected economic impact by the Federal Agency involved in this

proposed relocation. Such factors as the impact on jobs in the construction industry, real estate, insurance, retail sales, and tax revenues should be examined in depth by the U.S. Mint. There are also economic multiplier effects which would result if the facility is moved out of Denver.

No study at all has been done on the social ramifications of these alternate proposals. Something should be said about the positive socio-economic impact of locating a major employer of 800 persons in the Park Hill neighborhood, where jobs are needed. The social studies by the U.S. Mint are very scanty.

p.19 Paragraph E

The Federal Center site is located in a different city than Denver.

p.22 Second Paragraph

Federal and State plans to reduce VMT include Lakewood as well as Park Hill.

Other comments generated in the Denver Planning Office staff review are these:

- a. Housing is available in shorter supply in the City of Lakewood.
- b. Federal law specifically identifies the City of Denver as the site for a U.S. Mint.
- c. The Clayton Trust Property at Park Hill is closer to these other major tourist uses:
 - Stapleton International Airport
 - City Park Zoo
 - Coliseum and Stock Show
 - Convention Center
 - Central Business District Hotel area
 - Sports Complex, Mile High Stadium

Thus, tourists would be travelling fewer vehicle miles to take in the U.S. Mint if it were located at the Clayton Trust Property site.

- d. The Denver Planning Office earlier comments with regard to the Crescent Street Yards site for the U.S. Mint still stand.

ROUTING SLIP

<input type="checkbox"/>	Supt.	<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Supt. Bldg. & Mech.	<input checked="" type="checkbox"/> <i>DKS</i> 11/19/73	Security Officer
<input type="checkbox"/>	Deputy Supt.	<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Supt. Melting Div.	<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Safety Manager
<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Personnel Officer	<input checked="" type="checkbox"/> <i>DKS</i> 11/26	Head, Cash Div.	<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Occupational Health Nurse
<input checked="" type="checkbox"/> <i>DKS</i> 11/23	Supt. Coining	<input type="checkbox"/>	Facilities Proj. Mgr.	<input checked="" type="checkbox"/> <i>DKS</i> 11-27-73	Procurement Officer
<input checked="" type="checkbox"/> <i>DKS</i> 11/16/73	Budget & Acct. Offcr.	<input checked="" type="checkbox"/> <i>DKS</i> 11/21/73	Assayer	<input checked="" type="checkbox"/> <i>DKS</i> 11-26-73	Numismatic

<input type="checkbox"/> Action	<input type="checkbox"/> Full Report	<input type="checkbox"/> Read, Destroy
<input type="checkbox"/> Approval	<input type="checkbox"/> Initials	<input type="checkbox"/> Recommendation
<input type="checkbox"/> As Requested	<input type="checkbox"/> Note-Return	<input type="checkbox"/> See Me
<input type="checkbox"/> Filing	<input type="checkbox"/> Prev. Papers	<input type="checkbox"/> Signature
<input type="checkbox"/> Prepare Reply	<input checked="" type="checkbox"/> Your Info.	<input type="checkbox"/>

Remarks or attachments:

Return to Supt's Office

From:

Supt's Office

Date: 11-16-73



RECEIVED

NOV 16 1973

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

STATEMENT OF
FRANK H. MACDONALD, DEPUTY DIRECTOR OF THE BUREAU OF THE MINT,
DEPARTMENT OF THE TREASURY
BEFORE THE PUBLIC BUILDINGS AND GROUNDS SUBCOMMITTEE
OF THE HOUSE COMMITTEE ON PUBLIC WORKS
NOVEMBER 13, 1973, at 2:00 P.M.

Mr. Chairman and Members of the Subcommittee, I welcome the opportunity to appear before you in support of proposed legislation which would enable the construction of a new Mint at Denver, Colorado. Specifically, the bill before your Subcommittee, S. 1901, would amend legislation enacted by Congress in 1963 which authorized the Secretary of the Treasury, acting through the Administrator of General Services, to acquire sites for, and to construct and equip, such buildings as may be necessary in connection with the operations of the Bureau of the Mint. The bill before your Subcommittee would amend that Act to authorize an increase of \$50 million in the amount of money that can be appropriated to the Treasury Department for the construction of Mint facilities. This would raise the total authorized by Congress for Mint construction to \$95 million since 1963. In addition, the bill would extend the time during which the funds so authorized could be appropriated from July 1, 1973 to July 1, 1983.

Although the proposed bill would authorize expenditures for all construction and equipment requirements by the Mint, its primary objective is to permit us to go forward with the construction of a new facility in the Denver area. At the present time, three Mint facilities produce coinage for the entire Nation. These include the new Mint at Philadelphia, which began operations in August 1969; the San Francisco Assay Office, which was brought back into production in the fall of 1966; and the Denver Mint, which was built around the turn of the century. It has been clear to the Department for about ten years now that the Nation's increasing coinage needs would, at the minimum, require an expansion and modernization of the outmoded production facilities of the Denver Mint. This need was brought to the attention of the Congress, which in the 1966 Supplemental Appropriation Act, designated \$100,000 to develop plans for a cladding capability and for related construction at the existing Denver Mint. However, a study undertaken by a private architect-engineering firm recommended that, instead of expanding the present Denver facility, construction of a new Mint on a new site was the optimum plan in order to bring the Denver facility to a production capability sufficient to meet growing coinage needs.

The national coinage demand, according to our most recent forecasts, is estimated to rise to 18 billion coins per year by 1980 from the present 9 billion pieces. Indeed, it is quite likely that there will be a sharp increase in coinage demand even on the shorter run. As you well know, Mr. Chairman, the Congress passed about a month ago legislation to provide a bicentennial design for all quarters, half-dollars, and dollars issued

after July 4, 1975. The anticipated demand by collectors for these bi-centennial pieces, together with increasing commercial demand for coinage, will reach a point by 1977 or 1978 where the need for coinage could exceed our current production capability. With existing facilities, we can produce only 13 billion pieces per year by working three shifts at full capacity. Thus, well before the new Mint is completed, we will need to take action to increase our current productivity by installing additional equipment in our present facilities.

The plan to replace the old Mint at Denver was presented to the Congress in 1971. In its fiscal year 1972 budget, the Department included \$1.5 million for the acquisition of the new Mint site. The Congress agreed with the need for a new facility and appropriated the requested amount. For fiscal year 1973, the Congress appropriated an additional \$2 million to enable the Mint to enter into a contract for architectural and engineering services necessary to permit the construction and equipping of the new facility in a timely manner. Both of these appropriations were made under the authority of the 1963 Mint construction statute and were included in the \$45 million total authorized by that law. However, as I mentioned before, Mr. Chairman, the authority contained in that Act expired this past July; most of the funds authorized and appropriated by the Congress were utilized for the design and construction of the Philadelphia Mint in the 1960's, with the exception of the \$3.5 million so far appropriated for the new Denver Mint.

In May of this year, we reached an agreement with the City of Denver

for the acquisition of an appropriate site for the new Mint. Under the agreement, the City would assemble an approximately thirty-three acre land-package by the South Platte River before next August. When that land-package is assembled, the City will convey the land to the Government for \$1.5 million which, as I mentioned before, was appropriated to us in 1971 by the Congress. However, we were told about a week ago that the City of Denver may not be able to convey to us the selected site as specified in the agreement. If they cannot do so, we intend to locate the new Mint on an alternate site within the Denver metropolitan area. In either event, we are confident that a site will be available for the new facility by no later than August 1974.

The General Services Administration is ready to make arrangements for the development of the final design for the project, including the design of the production process, by an architect-engineering firm. For that purpose, we have already transferred to the General Services Administration the \$2 million appropriated to us by Congress in 1972.

The design, construction and equipping of the new Mint at Denver, which we expect to be operational by 1980, will involve two stages. The authorization we are now requesting from Congress pertains to the first stage of the project. This stage includes the site acquisition and design preparation activities, for which the necessary funds have already been authorized and appropriated, as well as the construction and equipping of a modern coin production and administrative facility which would be covered by the authorization here sought. Under our current estimates, the total cost of this stage of the project will be \$55.3 million, including

the \$3.5 million already appropriated for that purpose by the Congress. The legislation now pending before you, together with amounts previously made available to us by the Congress, would fully cover the cost of this first stage.

This new coin producing facility will enable us to manufacture 10 billion additional coins per year and would thus enable us to meet the ever-growing coinage demands of the Nation. In addition, however, we intend to include a strip fabrication facility in the new Denver Mint. The construction of such a facility, which would be the second stage of the project, is essential to assure the constant supply of high quality strip at a reasonable price for coinage blanks. The strip production facility planned for the new Denver Mint would have the potential for supplying our total requirements for penny strip.

The authorization we are now requesting will not cover the cost of construction of this strip facility and therefore we will have to come back to Congress for additional authorization. The reason we are unable to request authorization for the strip fabrication facility at this time is that we are currently examining the long-range feasibility of the continued use of copper in our pennies. Because of the steadily rising price of copper, which has nearly doubled since the beginning of this year, it may soon be necessary to abandon the current bronze alloy and substitute a new alloy for pennies. Of course, any change in the penny alloy would have to be authorized by the Congress. At this point, however, we must leave our options open concerning the nature of the strip production facility. Since it depends entirely on the type of alloy used in coinage,

we would be misleading the Congress if we were to request at this time authorization for a bronze strip production facility knowing that by the time it is completed we may be using an entirely different alloy in our pennies. Thus, our authorization request for the strip production facility must await completion of the study being conducted by Treasury and the Federal Reserve on the feasibility of alternate penny alloys.

In the meantime, Mr. Chairman, we consider it in the best interest of the Nation that we go forward with the construction of the new Mint at Denver. I respectfully urge you therefore to give favorable consideration to the proposed legislation which would enable the Mint to meet the coinage needs of the public.



THE DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

ASSISTANT SECRETARY

October 25, 1973

Dear Larry:

We were advised through our Mint Project Manager in Denver today that there are plans to relocate the main north-south rail line through the City of Denver along the east side of our proposed new Mint site. There is anticipated to be heavy traffic along this line, as much as one train per hour of through traffic. This is certainly not an acceptable adjunct to the planned development of the area by the Mint.

Mrs. Brooks talked to the Mayor of Denver this morning, and he also indicated a concern over this alteration of the site configuration, which is contrary to any of our previous concepts for a Mint site, and indeed would prevent the City of Denver from acquiring the land package specified in the conveyance agreement.

Unless the City of Denver can resolve this unexpected development to our satisfaction, we will need to abandon our plans to construct a new Mint on this site. We are sure you will agree it would be unwise to expend or obligate further funds in development of plans associated with placing a Mint facility on this site. Accordingly, we ask that you assure that prompt actions are taken to prevent such obligations or expenditures until this matter is resolved to our mutual satisfaction.

Sincerely,

Warren F. Brecht

Mr. Larry F. Roush
Commissioner
Public Buildings Service
General Services Administration
Washington, D. C. 20405

RECEIVED

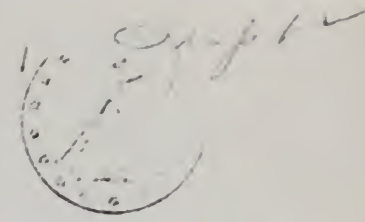
OCT 29 1973

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

File - New Mint

STATE OF KANSAS
GENERAL SERVICES ADMINISTRATION

Public Buildings Service
Washington, DC 20405



Desk Copy
(orig. in Mr. Rhea's possession)

RECEIVED

SEP 7 1973

SEP 19 1973

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Mr. Warren F. Brecht
Assistant Secretary for Administration
Department of the Treasury
Washington, DC 20220

Dear Mr. Brecht:

are enclosing a "Memorandum of Understanding and Agreement for Design and Construction Services", No. PBS 73-2 and the attachments described therein, for the New Denver Mint, Denver, Colorado, Project No. 05-0061. Please sign and date the Agreement and return the original. A copy is provided for your records.

It is also requested that the Department initiate Standard Form 1151 transferring the amount of \$2,000,000 as partial payment to General Services Administration to provide for all necessary costs in the development of design of the project including the design of the production process. The document transferring the funds should contain a notation that funds are apportioned and available for immediate obligation. In addition, it is requested that the Statutory Reference line in the Memorandum of Understanding be completed by your office.

Sincerely,

L. F. ROUNTH
Communications
Public Buildings Service

Enclosures

UNITED STATES GOVERNMENT

Memorandum

TO : Assistant Secretary Brecht
(Thru Deputy Assistant Secretary Clawson) *JPC*

DATE: September 12, 1973

FROM : F. H. MacDonald *FHM*
Acting Director of the Mint

SUBJECT: Treasury-GSA Agreement Concerning Denver Mint

Attached for your signature is a Memorandum of Understanding and Agreement, together with attachments, concerning the design and construction of the new U. S. Mint at Denver, Colorado. This package, which has been prepared jointly by Treasury and GSA staff, is fully acceptable to the Mint.

As you will note, the total estimated cost of the project is \$55,300,000. So far, Congress has authorized and appropriated a total of \$3.5 million for this project (\$1.5 million for site acquisition and \$2 million for construction). Legislation authorizing the additional funds has passed the Senate and is now pending in the House Public Works Committee.

As soon as you approve the Memorandum, the Bureau of the Mint will prepare the necessary forms for the transfer of \$2 million to GSA as partial payment for all necessary costs in the development of the project. This amount, which has been apportioned by OMB, is available for immediate obligation under the Mint's FY '73 appropriations.

Also attached for your signature is a letter to L. F. Roush, Commissioner of Public Building Services, GSA, transmitting the signed Memorandum.

RECOMMENDATION: That you sign the attached letter to GSA and the Memorandum of Understanding and Agreement.

Attachments



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan



THE DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

ASSISTANT SECRETARY

SEP 14 1973

Dear Larry:

I am returning to you a signed copy of the "Memorandum of Understanding and Agreement for Design and Construction Services", together with attachments, for the new Denver Mint at Denver, Colorado. The Bureau of the Mint is in the process of preparing the necessary documents for the transfer of \$2 million to the General Services Administration as partial payment for all necessary costs in the development of design of the project.

Sincerely yours,

Warren F. Brecht

Mr. Larry F. Roush
Commissioner
Public Buildings Service
General Services Administration
Washington, D. C. 20405

MEMORANDUM OF UNDERSTANDING AND AGREEMENT
FOR DESIGN AND CONSTRUCTION SERVICES

General Services Administration and The Department of the Treasury

NAME AND LOCATION OF PROJECT

New Denver Mint
Denver, Colorado

CONTRACT OFFICE

Public Buildings Service
Design Management Staff (PCDD)

STATUTORY REFERENCES Act of August 20, 1963, P.L. 88-102,
77 Stat. 129, as amended (31 U.S.C. 291-294);
Act of July 9, 1971, P.L. 92-49, 85 Stat. 109;
Act of July 13, 1972, P.L. 92-351, 86 Stat. 472.

SERVICES REQUESTED OF GSA

This project will consist of the design and construction of a New Denver Mint, Denver, Colorado including Production Process Equipment.

For Construction of Facilities and procurement and installation of Production Process Equipment GSA will advertise, obtain bids, award and administer contracts using the Construction Manager approach.

The following attachments are hereby made a part of this Memorandum of Understanding and Agreement:

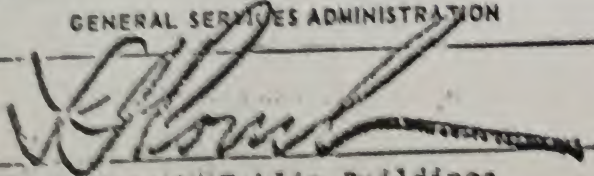
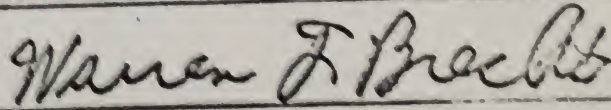
- A. Detailed Estimated Cost, GSA Form 2100A, dated August 23, 1973
- B. Detailed Agreement, Paragraphs 1 thru 16, dated August 23, 1973
- C. Bureau of the Mint - Funding Obligation - Planning Schedule, dated August 23, 1973.

PARTICIPATION BY

The Department of the Treasury

On March 10, 1972 It was agreed that General Services Administration would undertake to provide services of the scope described above by using its own facilities and personnel or by contract. GSA will endeavor to provide these services within the limits of costs of the numbered categories indicated on the attached GSA Form 2100A. The Department of the Treasury agrees to make available to GSA funds sufficient to cover the total estimated cost of the project. Whenever the scope of the services requested is changed, or whenever unforeseen circumstances require revisions in the cost estimated, it is agreed that this memorandum and any attachments thereto will be amended to indicate review and approval by both GSA and the

On this 14th day of September, 1973, the parties hereto have executed this agreement.

FOR	GENERAL SERVICES ADMINISTRATION	THE DEPARTMENT OF TREASURY
BY		
TITLE	Commissioner, Public Buildings Service	

UNITED STATES GOVERNMENT
 FEDERAL BUREAU OF INVESTIGATION
**DETAIL OF ESTIMATED COST
 FOR DESIGN AND CONSTRUCTION SERVICES**

Project No. **73-2**
 PROJECT NO.
05-0061

Denver, Colorado
 New Denver Mint

TOTAL

1. SITE ACQUISITION	\$	
a. LAND (Price by Treasury & all inclusive)		1,500,000
b. APPRAISAL, TITLE, ETC. (Included in the above)		-

\$1,500,000

2. PRELIMINARY PLANNING, DESIGN, SPECIFICATIONS & PROJECT ADMINISTRATION		PHASE	
		DESIGN	CONSTRUCTION
a. PLANNING AND DESIGN	Structure	\$ 1,510,000	\$ 205,920
	Equipment	448,800	61,200
b. CONSTRUCTION AND JR REVIEW - PLANS AND SPECIFICATIONS		312,000	42,000
c. TRAINING - GSA REVIEW		15,000	15,000
d. SURVEY AND SUBSOIL INVESTIGATION TESTS, ETC.		75,000	45,000
e. TRAVEL - GSA PERSONNEL		15,000	10,000
f. PRINTING - BIDDING DOCUMENTS		15,000	15,000
g. ADVERTISING - CONSTRUCTION BIDS		5,000	5,000
h. SUPERVISION OF CONSTRUCTION	CH - Basic Fee	374,200	629,800
	CH-INSPECTION/RES. ENGR	20,000	649,000
	GSA Administration	56,020	525,980
TOTAL		\$ 2,846,100	\$ 2,203,900

\$ 5,050,000

3. CONSTRUCTION OR IMPROVEMENT CONTRACTS	\$	
a. PRIMARY (incl. site development & cost adjust to 4-76)		28,000,000
b. CONTINGENCIES (on construction & equipment)		2,250,000
c. Misc. Items to be purchased by owner such as Landscape Planting, Lamps, Fine Arts, Etc.		600,000

(4-76)

\$ 30,850,000

4. RENTS AND MOVING	\$	
5. FURNISHINGS AND SUPPLIES		
6. EQUIPMENT (Price by Treasury) \$14,000,000 Eqt. + 3,000,000 Installation (Includes escalation to 4-76 per Treasury)		17,000,000
7. OTHER COSTS (Price by Treasury) Relocating of Equipment - Start up time		900,000

Note: Construction estimate based on Gross Area of 400,000 s.f. as furnished by Treasury. Treasury will furnish inspection of equipment installation from funds other than mentioned above.

\$ TOTAL ESTIMATED COST **\$ 55,300,000**

GSA FC 89-2411

GSA Form 2100A

J. ADVIS - PCRE

8-23-73

ATTACHMENT B

This Attachment B to the Memorandum of Understanding and Agreement between the Department of the Treasury and the General Services Administration is to govern the relationship between the two parties with regard to the design and construction of a new United States Mint at Denver, CO. This Agreement is entered into pursuant to the authority contained in the Act of August 20, 1963, 31 U.S.C. 291.

Whereas, the Bureau desires to construct a New United States Mint at Denver, Colorado, on a site of approximately 38 acres on the west bank of the South Platte River hereinafter referred to as the Project. Now, therefore, the parties mutually agree as follows:

1. The Bureau of the Mint, Department of the Treasury, hereafter called the Bureau, shall be the agency primarily responsible for fulfilling the terms of the Agreement which are applicable to the Department of the Treasury.
2. The Public Buildings Service, General Services Administration, shall be primarily responsible for fulfilling the terms of this Agreement which are applicable to the General Services Administration.
3. The Project Budget is estimated to be a total of \$55.3 million, including coinage and other special production equipment and facilities (production process equipment), established as per GSA form 2100A dated August 23, 1973 (Attachment A) and Bureau of Mint - Funding Obligation - Planning Schedule contained in Attachment C, dated August 23, 1973, which attachments are a part of the Memorandum of Understanding and Agreement. The Bureau will take all steps necessary to obtain Congressional authorization and appropriations of the funds required to meet the project budget in full.
4. The Bureau will transfer to GSA, upon execution of this Agreement, the sum of \$2,000,000 as partial payment for all necessary costs in the development of design of the Project including the design of the production process. The funds may be used for GSA review and management costs, Architect-Engineer costs, and for Construction Manager costs allocable to the design phase. (The Construction Manager functions and costs in the design phase include site work, structure or structures, and production process equipment only as to the equipment's effect on the site and structure, i.e., foundations, footings, mechanical-electrical, gas, water, etc.)
5. The Bureau will participate in evaluating the technical proposals received from interested firms under the first step of the Construction Manager selection process. GSA and the Bureau shall jointly determine the level of rating points above which rated firms will be considered for participation in the second step of the selection process.

6. Representatives of the Bureau will participate in all contract negotiations between GSA and the Architect-Engineer and the Construction Manager and GSA. The Architect-Engineer and Construction Manager contracts shall be executed only after approval of the terms thereof by the Bureau. The Bureau shall promptly review the contracts.

7. Following the Bureau's approval of the construction tentatives, the Bureau will transfer to GSA, in accordance with Funding Obligation - Planning Schedule, Attachment C, funds as are available from appropriations. This funding will permit starting of phased construction and procurement of production process equipment prior to completion of the design documents. The funds transferred will be available for (a) award of separate construction and production process equipment contracts, (b) GSA management costs in the construction and processing equipment phase, (c) A/E post contract services, and (d) Construction Manager costs for the construction and the processing equipment phase. (The Construction Manager costs for the construction phase includes site work, structure or structures, and production process equipment only as to the equipment's effect on the structures, i.e., supports, foundations, footings, mechanical-electrical supply coordination of equipment installed with other trades, etc.)

8. During the design stage, the Bureau will review all submittals by the Architect-Engineer, or Construction Manager, and will participate in any on-board reviews in the Architect-Engineer's office within the mutually agreed schedule. All Bid Documents, including those for production process equipment, will be advertised for bidding only after approval by the Bureau.

9. GSA will utilize its facilities and personnel as may be required for the award and administration of contracts for the design, construction management, construction and procurement and production process equipment of said Project within the Construction Cost Limitation of \$47,850,000 as of April 1976 which includes the total of the separate construction and procurement contracts and contingencies. In the event that the first scheduled contract award is postponed nine months or more beyond the scheduled date of commencement of phased construction as set forth in paragraph 11 below, this agreement may be modified by mutual agreement.

10. The construction cost excludes cost for window drapes, venetian blinds, furniture, movable partitions (except any type of floor to ceiling walls are not to be considered movable partitions), and all items classified as Group II equipment.

11. Subject to the provisions of this Agreement, GSA shall immediately commence performance of the services required hereunder, and shall pursue such work with all diligence to insure that the services to be performed under this Agreement be completed according to the following schedule:

a. Commencement of Architectural-Engineering
Services Contract

November 1, 1973

b. Commencement of Construction Manager Contract

November 1, 1973

c. Commencement of Phased Construction

March 1, 1975

d. Completion of Construction and Occupancy by the Department of Treasury

January 1, 1979

12. The Bureau shall:

a. In conjunction with GSA, make decisions on timely procurement of production process equipment items.

b. Perform the technical review of bids received in response to procurement solicitations for production process equipment, make determinations in accordance with all applicable procurement laws, regulations, judicial proceedings, and Comptroller General decisions as to whether the bids comply with the technical specifications of the solicitations, and provide GSA with documentation. The Bureau's determinations, if in accordance with all legal requirements, shall be accepted by GSA in making decisions on production process equipment contract awards.

c. In conjunction with GSA, inspect and supervise the installation of production process equipment.

d. In conjunction with GSA, test, start-up, and make final acceptance inspections on all production process equipment items, systems and sub-systems.

e. Provide personnel, under the supervision of a full-time Bureau Project Manager, to perform the activities and functions listed above.

13. GSA shall:

a. Furnish monthly Project Summary Reports to the Bureau. These reports will show all funds transferred for the project and total obligations to date.

b. Furnish the Bureau Project Manager one copy of any and all correspondence pertaining to the project.

c. Upon completion of the construction and installation of processing equipment, certify to the Bureau that all work for which GSA is responsible has been completed in accordance with the contract documents.

d. Furnish the Bureau with three (3) copies of the Final Outline of Architectural Requirements, including a narrative program description, an outline of architectural requirements, functional layout diagrams of the project, and transmit the above copies to the Bureau within 48 hours after receipt from the A/E.

e. Within 48 hours after receipt from the A/E, transmit to the Bureau 3 copies of Concept Documents, Tentative Documents, and Working Drawings Documents.

f. Furnish the Bureau with two rendered perspectives, in color (two views), and one model of the total project, suitable for public viewing, within 30 days after the approval of the Tentatives by the Bureau.

g. Obtain all clearances and assure compliance with Federal regulations, including Environmental and Civil Defense Standards.

h. Furnish the Bureau with all deeds, free and clear of legal encumbrance and obligations, to the real property included in the Project, and transfer title to the Bureau at the time of occupancy.

i. Make arrangements for ceremonies proposed in connection with the Project, such as groundbreaking, cornerstone laying, and dedication, in coordination with the Bureau, so as to assure adequate preparations therefor and compliance with applicable contractual provisions.

14. Paper reproducibles (sepia) of all final working drawings will be given to the Bureau after approval. As-built plastic reproducibles of the working drawings will be prepared by the Construction Manager from marked prints maintained at the job site. The As-built plastics will be given to the Bureau after construction completion.

15. Final construction documents presentation material shall have incorporated into the Architect title block, the name U.S. Department of Treasury, Bureau of the Mint.

16. Whenever the scope of the services requested is changed, or whenever unforeseen circumstances require revisions in the cost estimates, this agreement and attachments hereto will be amended to indicate review and approval by both the Bureau and GSA.

BUREAU OF THE MINT

ATTACHMENT C

8-23-73

FUNDING OBLIGATION - BY FISCAL YEAR

PLANNING SCHEDULE - NEW DENVER MINT

	1973	1974	1975	1976	1977	FY 1978	DOLLARS IN MILLIONS
SITE							
Acquisition	1.50						1.50
Development Work			2.50				2.50
Exterior Lighting, Landscaping & Miscellaneous					0.60		0.60
DESIGN SERVICES							
Production Process Design		0.30					0.30
Site Development Drawings		0.14					0.14
Facility Building Design		0.86	0.55				1.41
Equipment Specs. and Survey							
Equipment Potential		0.08					0.08
Equipment Procurements, Installation Drawings			0.30				0.30
BUILDING (S)							
Construction Cost				26.90			26.90
EQUIPMENT							
Equipment Cost			8.70		6.00		14.70
Equipment Installation Cost					3.15		3.15
CONSTRUCTION MANAGEMENT							
Design Review, Project Programming and Scheduling		0.62					0.62
Construction Supervision			1.70				1.70
Equipment Inst. Supervision					0.50		0.50
START-UP, RELOCATION AND TRANSITION						0.90	0.90
FUNDING REQUIREMENTS	1.50	2.00	13.75	26.90	10.25	0.90	55.30



DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

OFFICE OF
DIRECTOR OF THE MINT

September 14, 1973

Mr. Larry F. Roush
Commissioner
Public Buildings Service
General Services Administration
Washington, D. C. 20405

Dear Mr. Roush:

Reference is made to the Memorandum of Understanding and Agreement for Design and Construction Services for the new Denver Mint, dated September 14, 1973, between the General Services Administration and the Department of the Treasury.

In order that you may proceed with performance of the services covered by the Memorandum of Understanding and Agreement, transmitted herewith are Department of the Treasury-Bureau of the Mint approved design criteria for the project consisting of the following: Proposed Scope of Architect-Engineer Services; Design and Construction Schedule; Planning Criteria; Design Capacities and Material Flow Charts; Specific Equipment/Function Criteria (Items 1-36); Tentative Mint Layout Drawings; and Coin Data Tables.

It is our intent in the Bureau of the Mint that the Planning Criteria and the Coin Data Tables are not subject to any substantive amendment. The other documents, however, are proper subjects for review and amendment by all concerned as we proceed through the design and construction of this important new facility.

I trust that the information provided herewith is sufficient for your requirements. I am pleased that after some delay we are now proceeding with this project and look forward to working with you and your excellent staff on this important undertaking.

Sincerely,

Frank H. MacDonald
Acting Director of the Mint

Encl. (as shown)



Keep Freedom in Your Future With U.S. Savings Bonds

New Mint 1973 - 1977

[Folder 1 of 2] Correspondence and Reports

